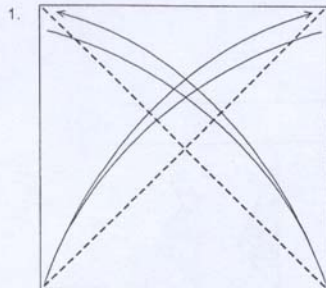
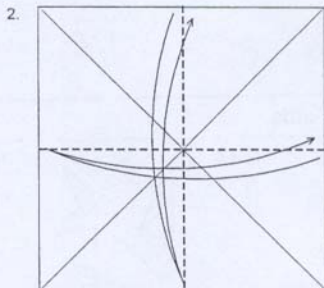


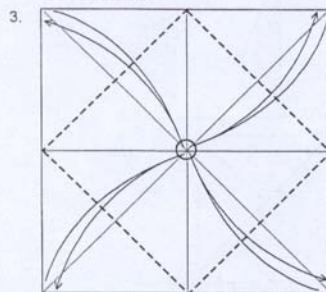
cm square of regular origami paper will produce a 9cm goldfish. A sheet of 20cm to 25cm is recommended. A fair bit of precreasing is required at the beginning.



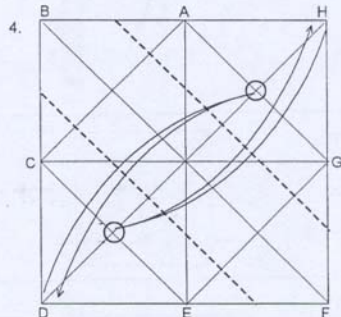
Begin with the white side facing you. Fold diagonally in half in both directions, crease well, and unfold.



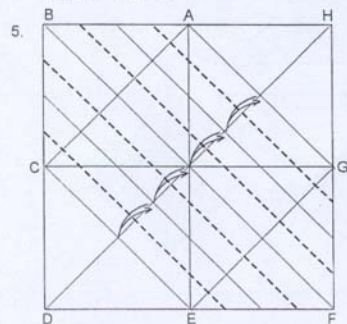
Next, fold vertically and horizontally in half, crease well, and unfold again.



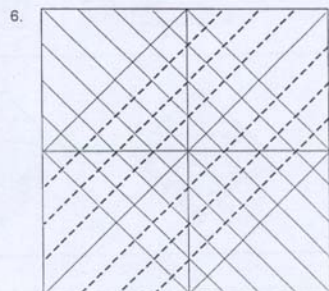
Fold each of the four corners to the centre, crease and unfold.



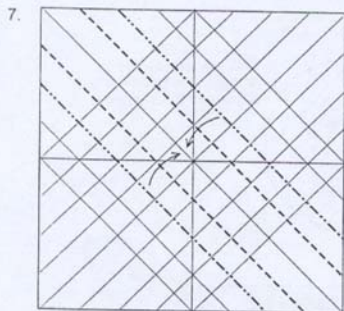
Fold Corners D and H to the illustrated landmarks. Crease and unfold again.



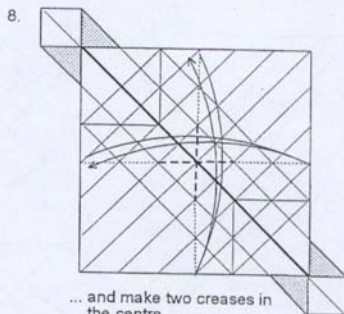
Make four more crease lines as shown, dividing the area ABCEFG diagonally in eighths, ...



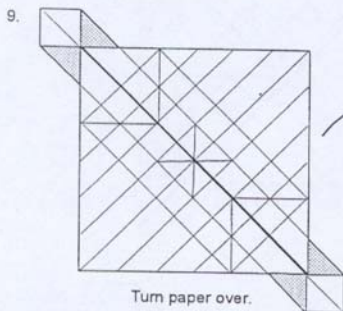
... then repeat Steps 4 and 5 in the opposite direction.



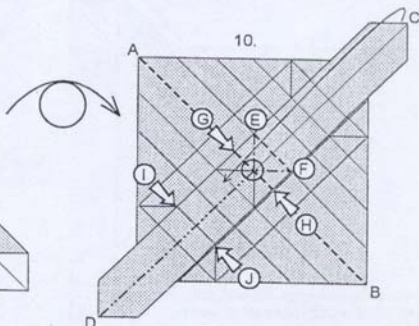
Pleat fold as illustrated, ...



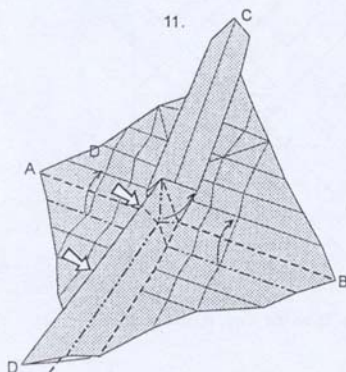
... and make two creases in the centre.



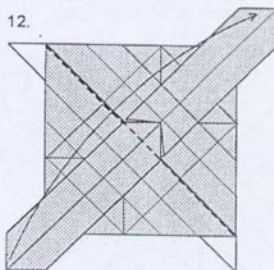
Turn paper over.



Pinch the edges together along arrows G, H, I and J to form the Y-shaped mountain line DEF, while bringing Corner C 90 degrees up from the folding surface, ...

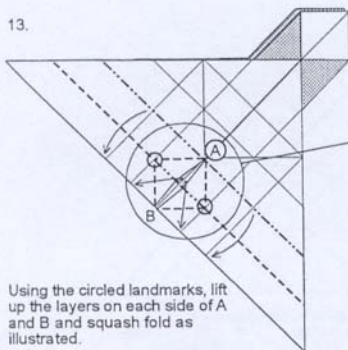


... like this. Now flatten from Corner D to the centre of the paper as shown, forming a triangular tab in the centre. This will be the dorsal fin. Note the resulting pleat fold covering diagonal AB.



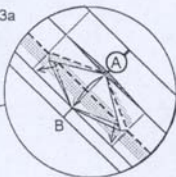
Fold diagonally in half.

13.



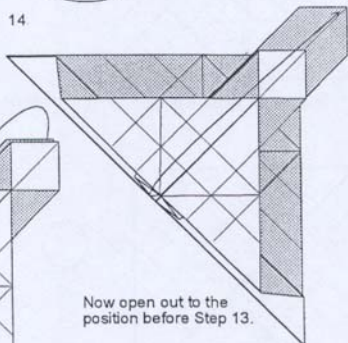
Using the circled landmarks, lift up the layers on each side of A and B and squash fold as illustrated.

13a



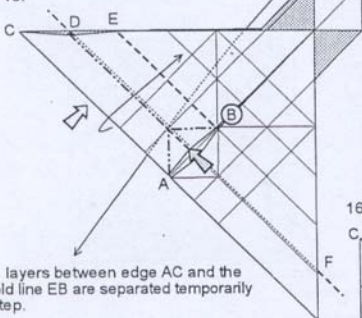
This shows how the layers in the middle are supposed to collapse.

14



Now open out to the position before Step 13.

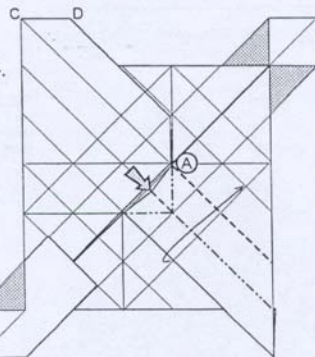
15.



The two layers between edge AC and the valley fold line EB are separated temporarily in this step.

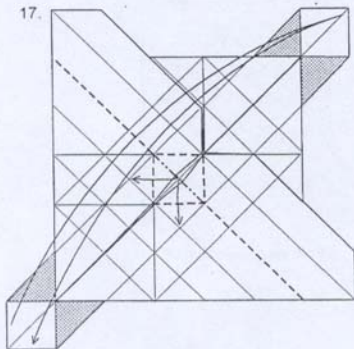
First, push the edge between points A and B, separating the paper along the Y-shaped mountain line, then continue by pushing along AC. While doing these, swivel the bottom half of the paper to the left along line DF.

16.

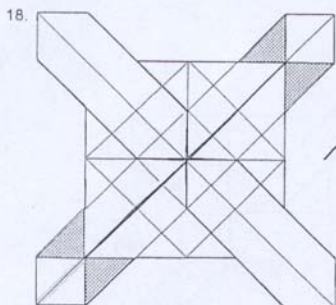


Repeat Step 15 on the lower right section of the paper.

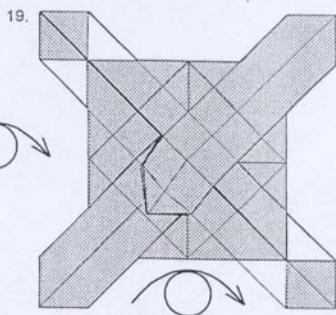
17.



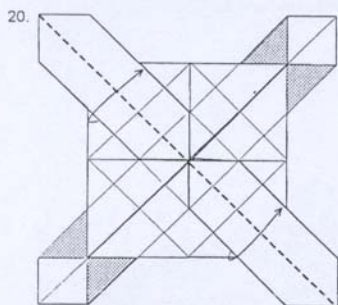
That done, repeat Steps 13 to 16 on the adjacent area as illustrated.



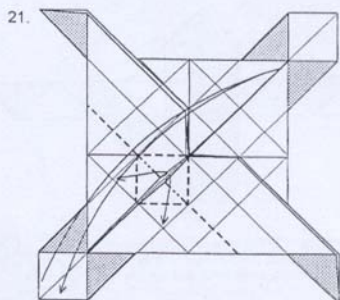
This is what the paper should look like after Step 17. Turn over,



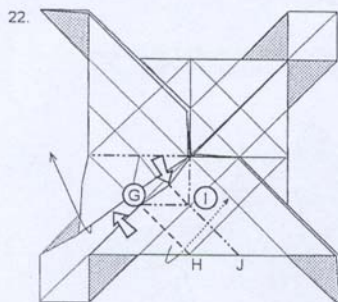
... and the reverse side should appear like this. Turn the paper over again.



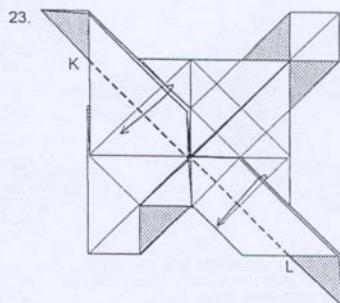
Swivel the two flaps diagonally to the right, ...



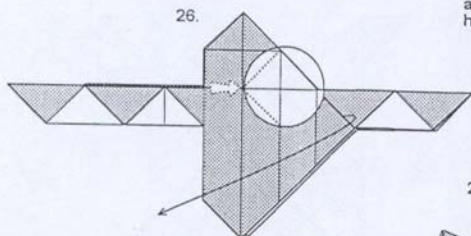
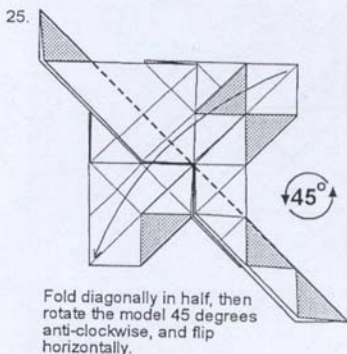
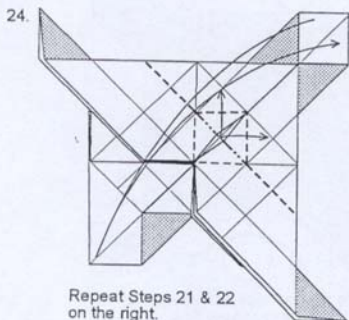
Repeat as in Steps 13 and 14.



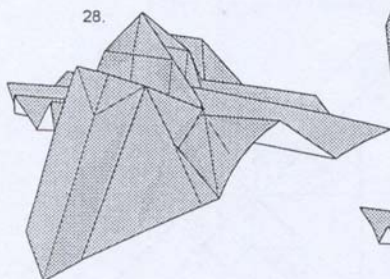
The section to the right of the bottom left quadrant should be collapsed in the same way as Step 16, except that the valley fold line GH should go under mountain line IJ. The section on the left portion of this quadrant should be reverse folded, ...



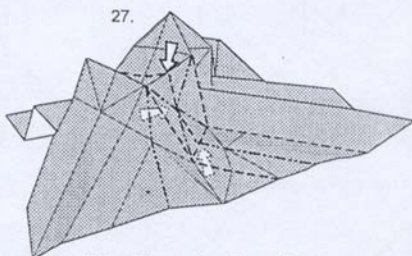
... like this. Swivel all flaps along the KL axis to the left, ...



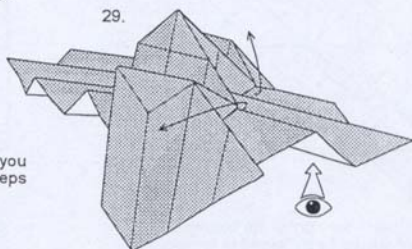
We will now have to reverse fold the hidden corner shown as an X-ray view in this illustration. Begin by opening out on the right, ...



... until the corner pops out like this, allowing you to flatten the paper completely. Repeat Steps 26 to 27 on the other side.

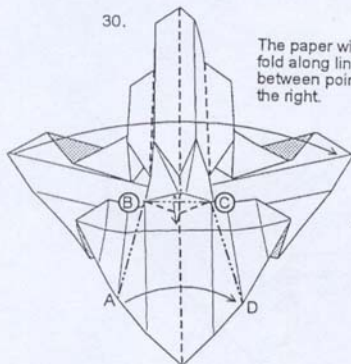


... then collapse along the existing crease lines by pushing from below and the top, ...



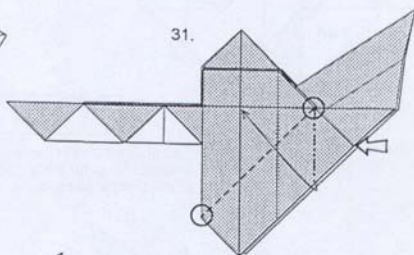
Open out on the right. The next figure would show the view from the underside of this area.

30.

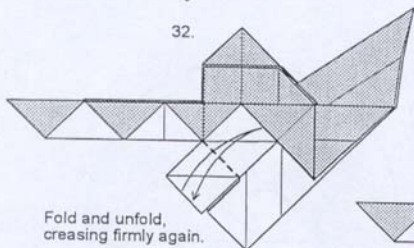


The paper will not fall flat at this Step. First, mountain fold along lines AB and CD, then form a little crimp between points B and C as you flatten the paper to the right.

31.



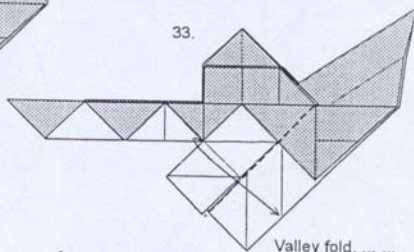
32.



Fold and unfold, creasing firmly again.

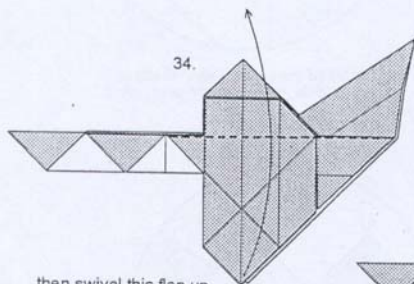
Reverse fold the corner on the right, then valley fold between the circled landmarks. Crease firmly.

33.



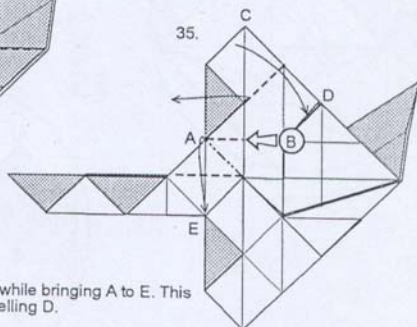
Valley fold,

34.

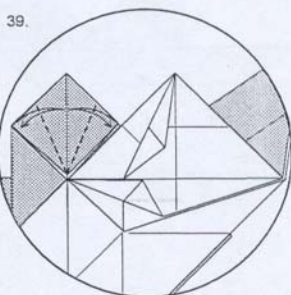
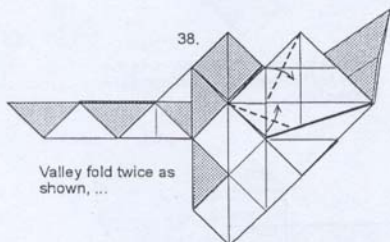
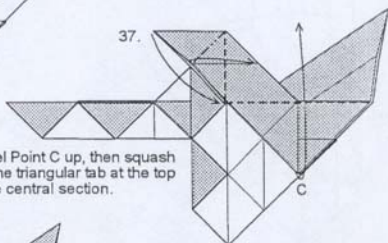
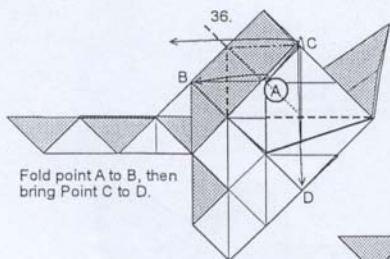


... then swivel this flap up.

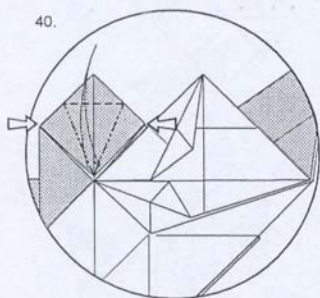
35.



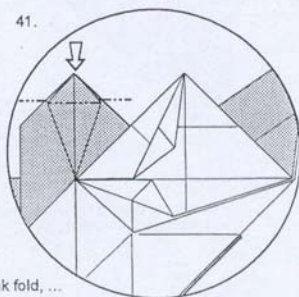
Push out at point B while bringing A to E. This will result in C swivelling D.



... then fold the lower diagonal edges to the middle, crease firmly, and unfold.

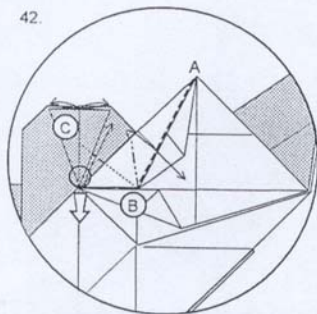


Petal fold.



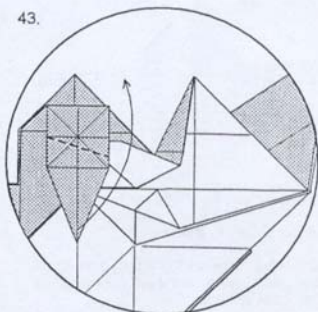
Open sink fold, ...

42.



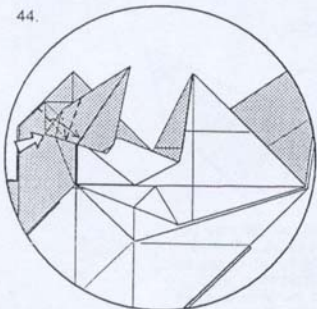
Valley fold along A and B. This will draw out the layer underneath along a valley line between B and C. Next, pull the tab below C down, to open and flatten the layers directly above, ...

43.



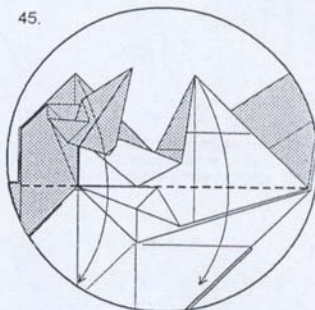
... like this. Valley fold the little tab at the angle shown.

44.



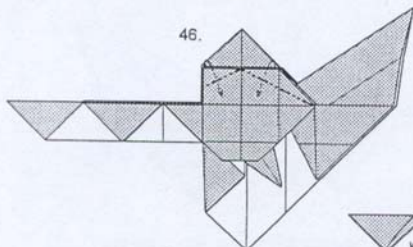
this fold on the little tab is similar to the sequence in Step 42.

45.



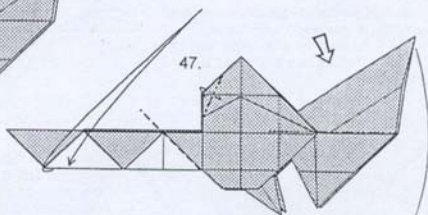
Now swivel the whole section down.

46.

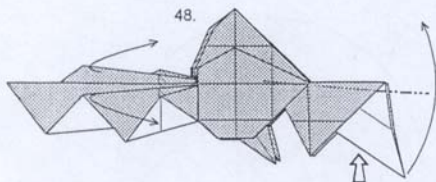


Mountain fold the corners to shape the body, then repeat from Step 31 on the other side

47.

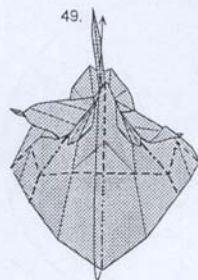


Reverse fold the tail on the right, then valley fold and unfold through all layers on the left, creasing firmly. That done, mountain fold both corners in the middle in between the two layers to shape the dorsal fin.

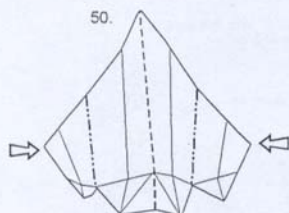


The next three steps can be a little confusing. Take a good look at Figure 51 before you begin - that's where you're supposed to get to.

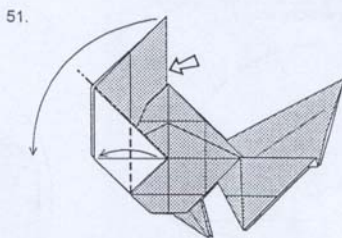
Reverse fold the tail piece on the right again, then open out the pleated layers on the left entirely. This will be used to form the head.



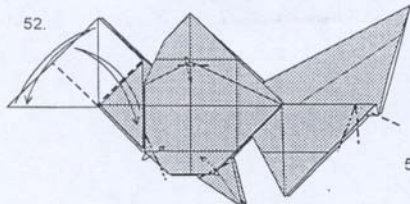
This is a top view of the front of the head piece. Using the existing crease lines, reverse fold the head piece in between the two layers of the dorsal fin.



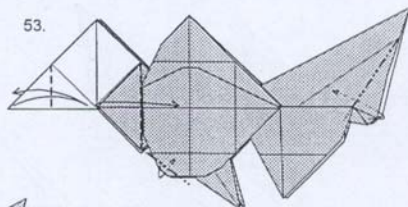
This is a view of the reverse side of the head piece as Step 49 is in progress. Flatten the pleats again to complete the step.



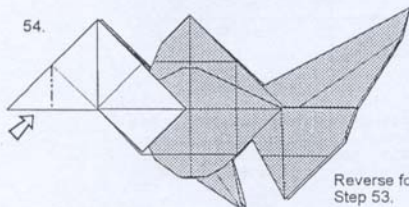
Your Ryukin should look like this at this stage. Reverse fold the head piece again as illustrated, and valley fold the white layer at the base of the head.



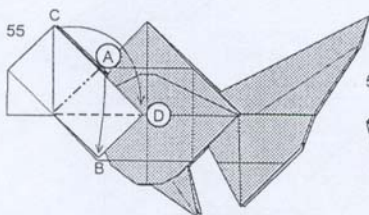
Valley fold twice at the head, crease firmly, and unfold. Then shape the body with three mountain folds, followed by a reverse fold at the tail as shown. Repeat on the other side of the body and tail.



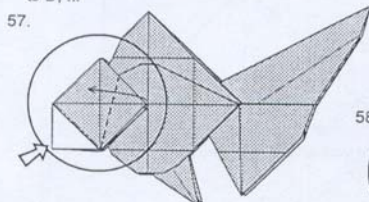
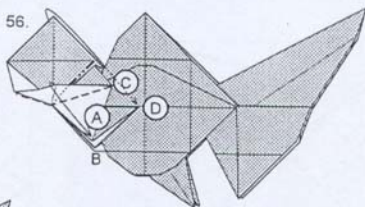
One more mountain fold to each side of the body and the tail, then swivel the triangular piece at the base of the neck to the right. Repeat on the other side. Fold and unfold at the head again, creasing firmly.



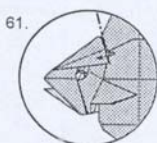
Reverse fold along the crease line made in Step 53.



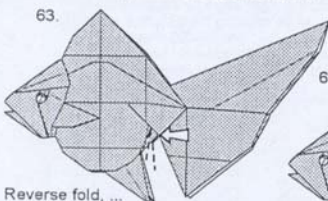
Bring A to B. This will automatically bring C to D, ...



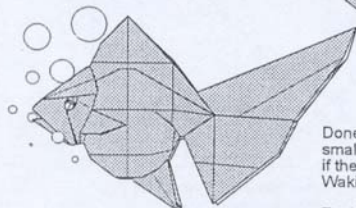
Reverse fold the triangular white extension and valley fold as illustrated on both sides of the head.



The crown is shaped with an off-set squash fold. Step 61 shows how it should appear eventually. Shape the eyes and both sides of the head as diagrammed. Repeat behind.

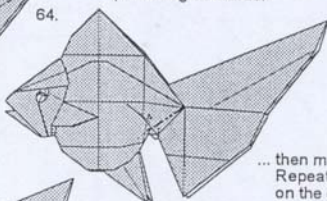


Reverse fold, ...



64.

Crimp fold. The circled point should be protruding outwards.



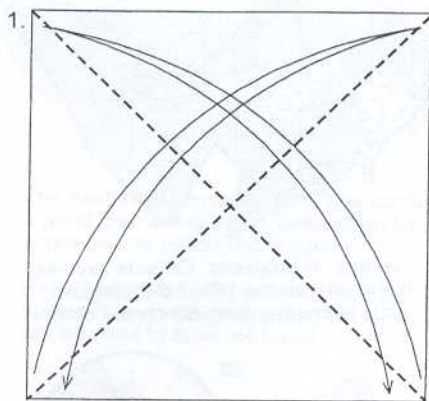
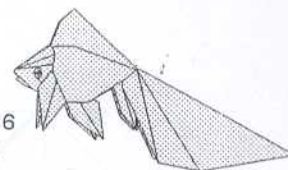
... then mountain fold. Repeat from Step 62 on the other side.

Done! The pectoral fin is somewhat small in this version. Could be better if the head and pectoral fins of the Wakin were incorporated instead.

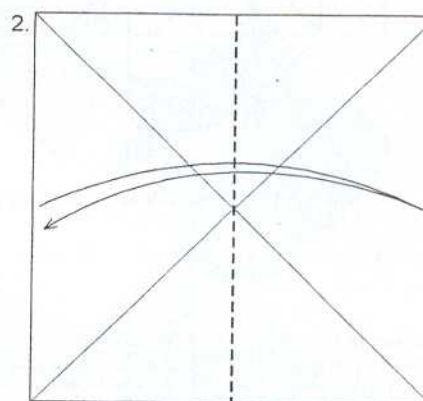
Try it!

Veiltail Goldfish

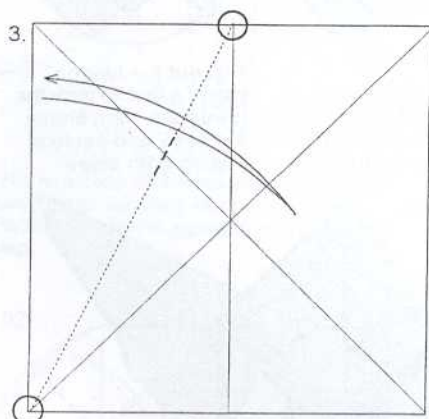
Begin with a square of at least 20cm x 20cm for your first attempt and a 13.5cm goldfish. Steps 1 to 16 have to be folded very accurately, otherwise you will have problems with alignments as you go along.



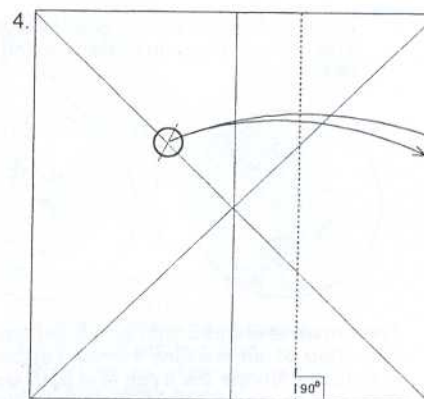
1. Fold diagonally in half, crease well, and unfold, then repeat in the opposite direction.



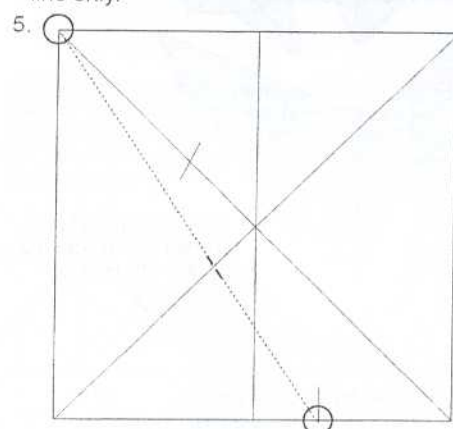
2. Fold vertically in half, crease well, and unfold.



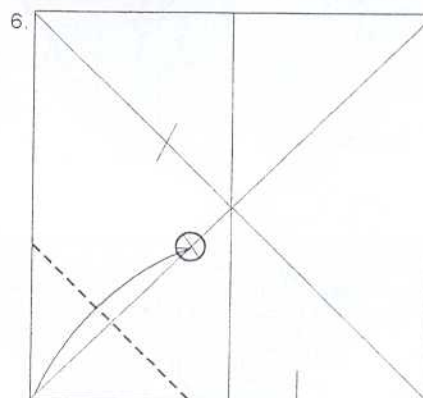
3. Valley fold between the circled landmarks, but crease where the fold intersects the existing diagonal crease line only.



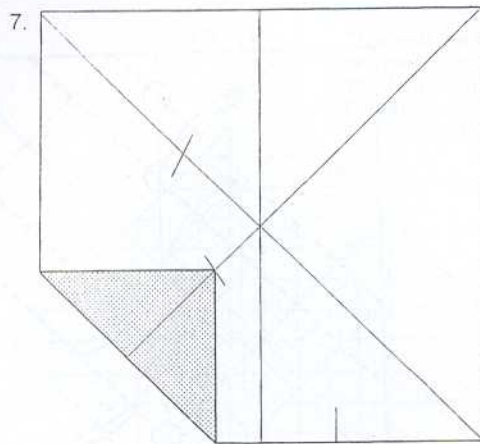
4. Valley fold the right edge to the circled landmark, while aligning the bottom such that the valley fold line lies 90 degrees to the base edge. Crease only where the fold meets the lower base edge.



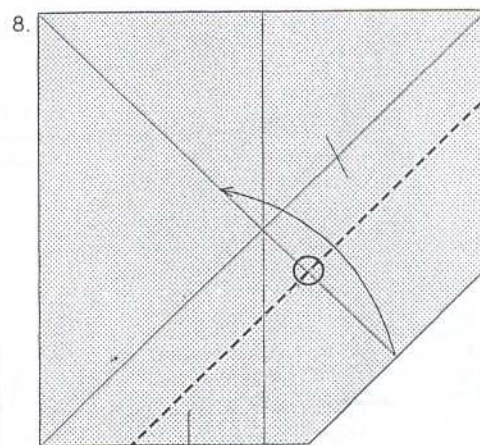
5. Again, valley fold between the circled landmarks; crease where the fold intersects the diagonal crease line only.



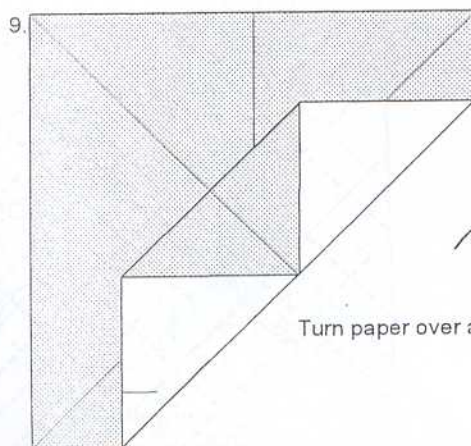
6. Valley fold the corner to the circled landmark, ...



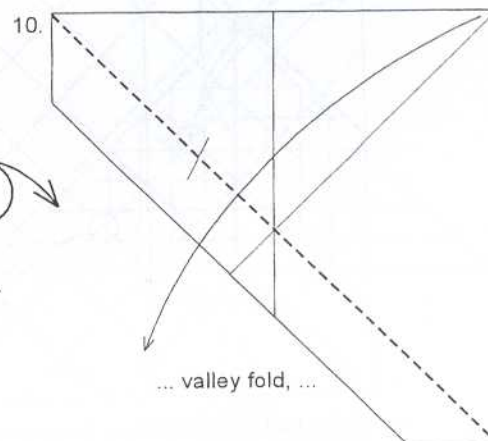
Turn paper over, ...



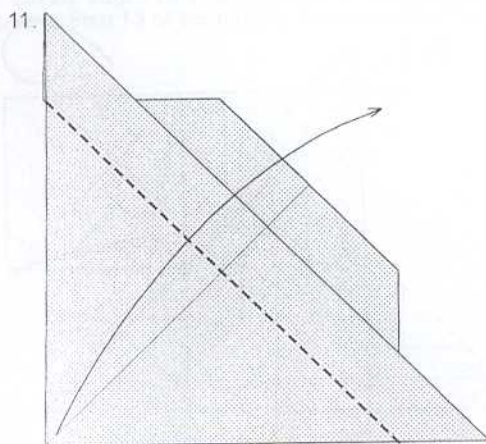
... and valley fold through the circled landmark.



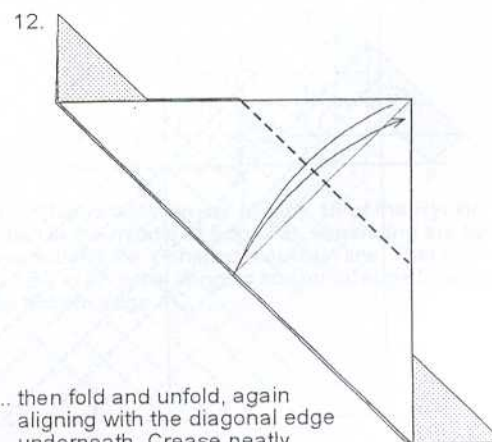
Turn paper over again, ...



... valley fold, ...

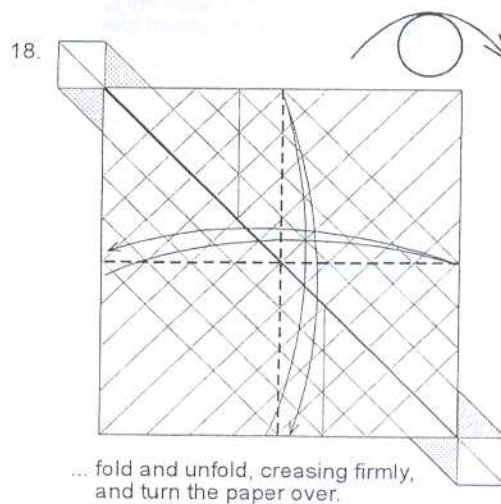
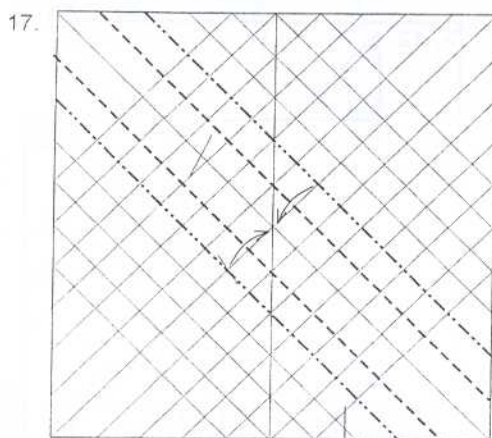
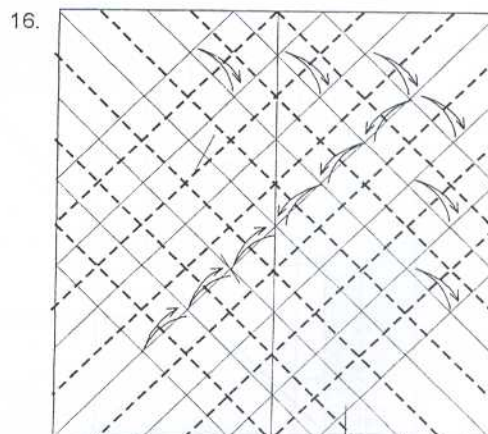
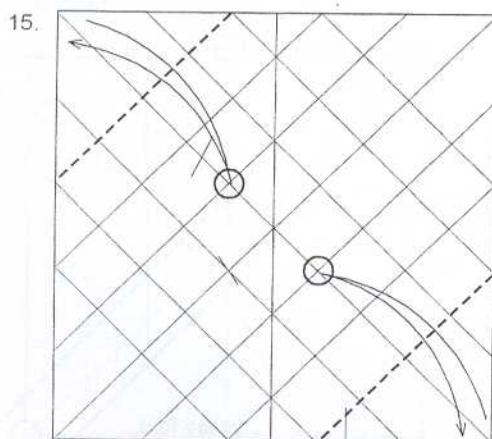
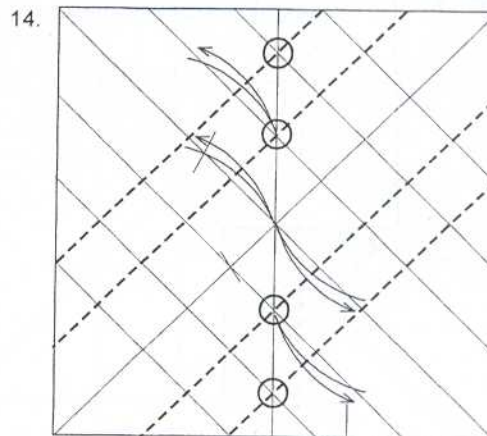
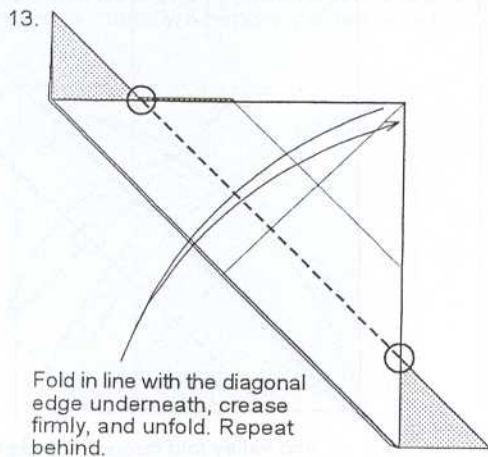


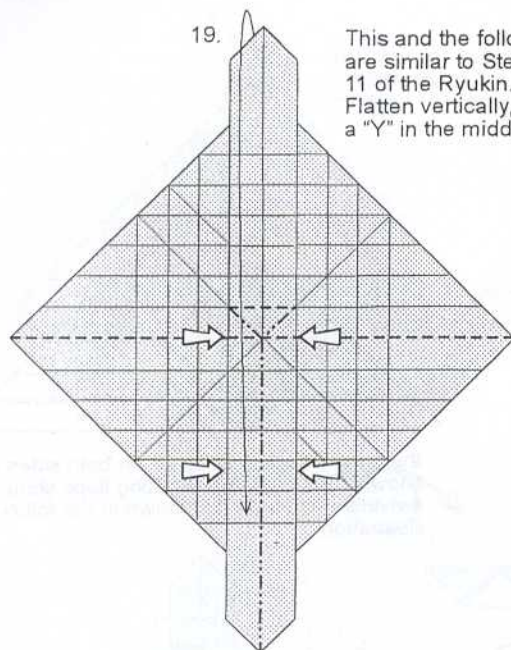
... another valley fold, aligning with the diagonal edge underneath, ...



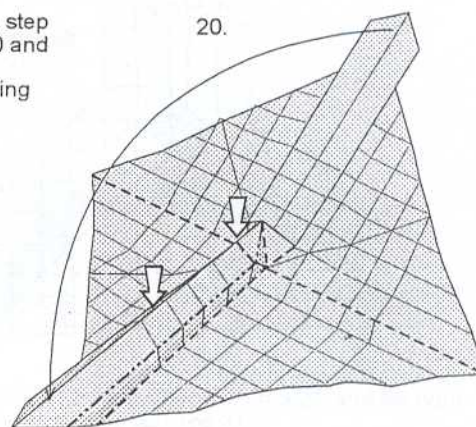
... then fold and unfold, again aligning with the diagonal edge underneath. Crease neatly.

Veiltail Goldfish

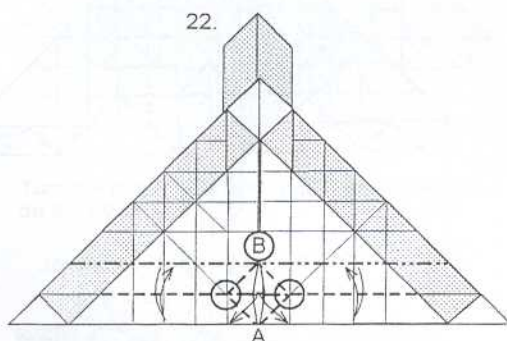




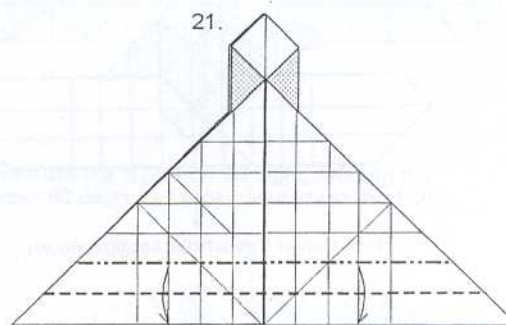
This and the following step are similar to Steps 10 and 11 of the Ryukin. Flatten vertically, forming a "Y" in the middle, ...



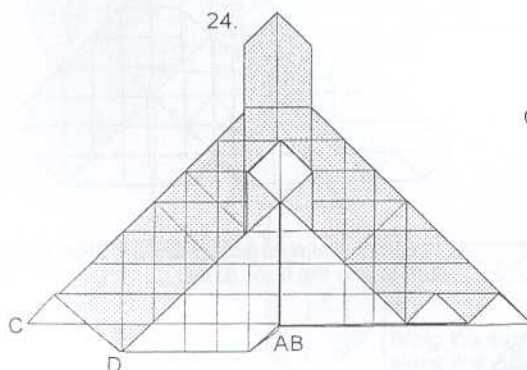
... like this. Next, flatten horizontally, leaving a protruding triangular tab in the middle.



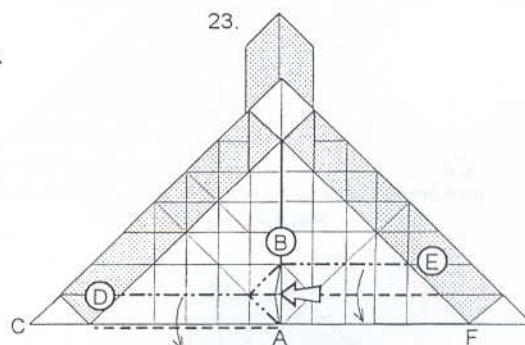
Lift the edges between A and B and squash fold as in Step 13 of the Ryukin. Crease and unfold.



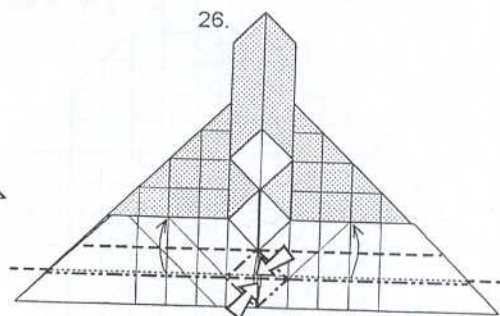
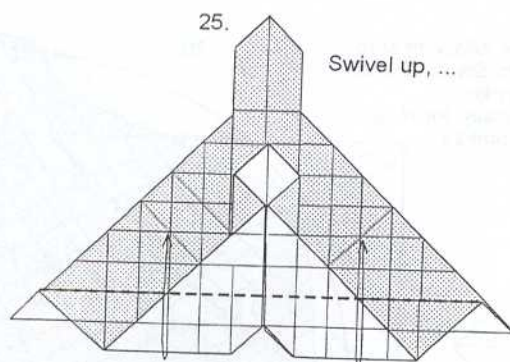
Pleat fold.



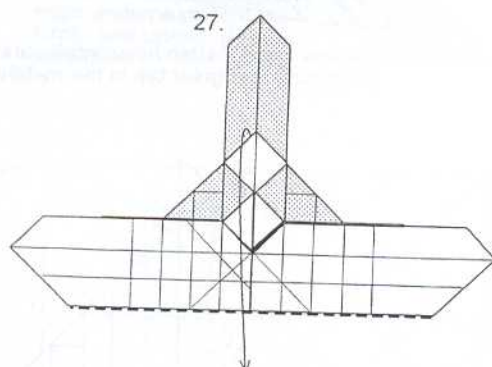
... like this. Repeat the folds on the left half of Step 23 to the right.



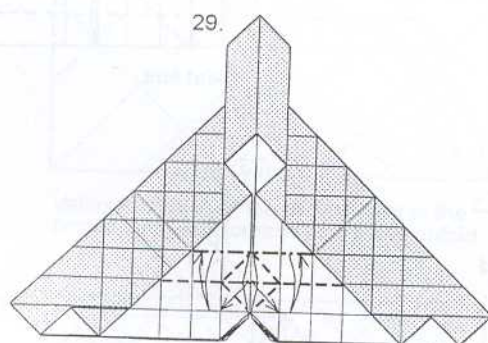
This Step is fairly similar to Step 15 of the Ryukin. Push in the middle of Edge AB, separating the two layers along the Y-shaped mountain line. That done, fold BE to AF while bringing horizontal edge D below the bottom edge AC, ...



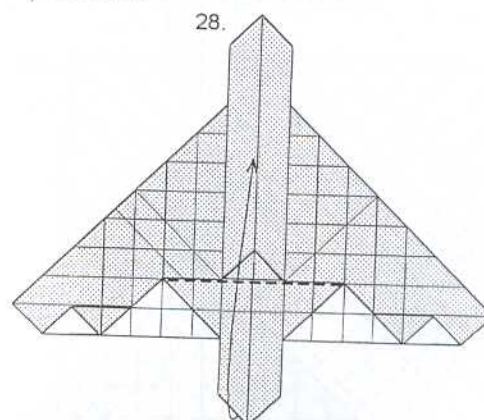
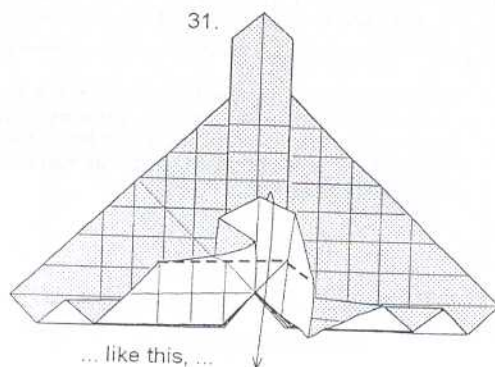
... then repeat Steps 21 to 23 on both sides as shown. This time, the resulting flaps should be swivelled upwards, as shown in the following illustration.



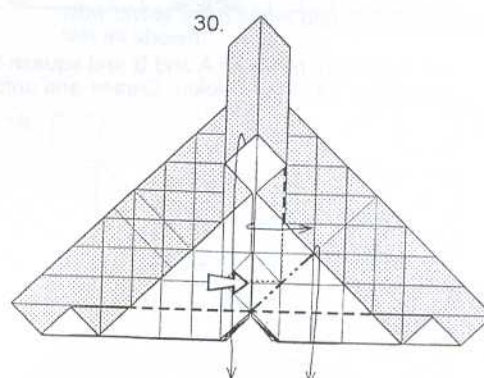
Now swivel this whole section down, ...



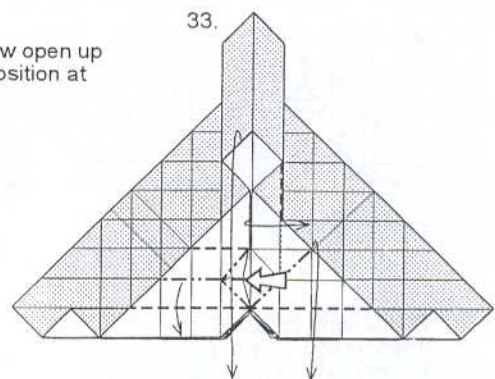
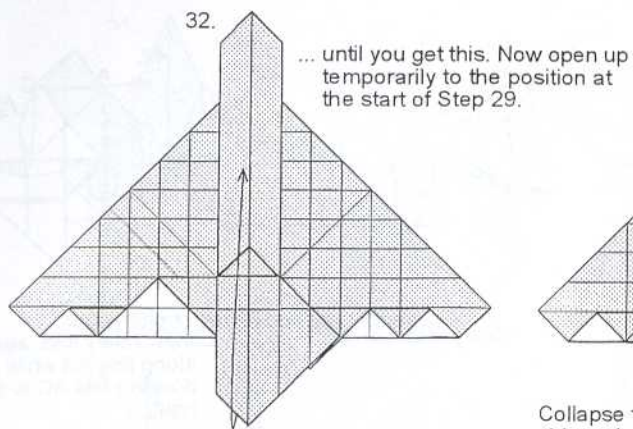
Repeat Step 22 here.



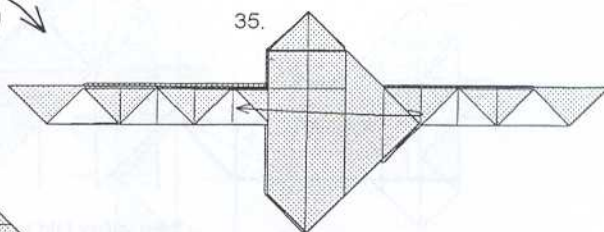
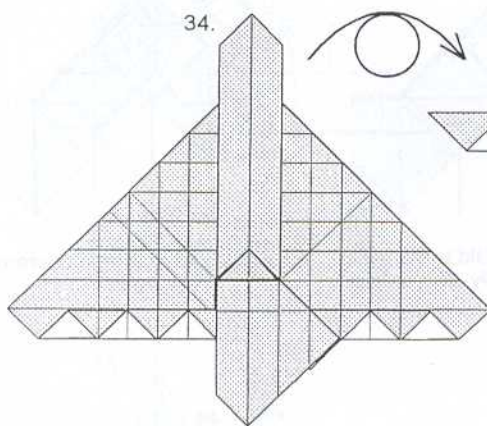
... then swivel up again as shown.



Open out the right side as shown, while bringing the flap in the front down, ...

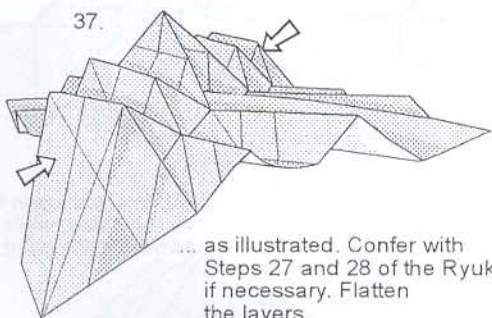


Collapse the left side as in Step 23, and the right side as in Steps 30 and 31.

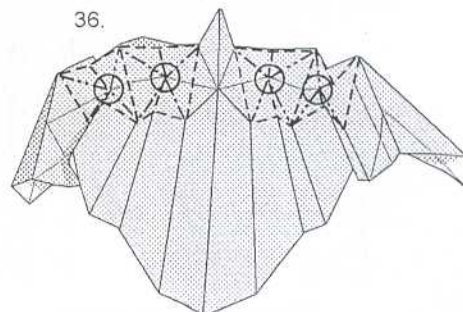


Open out the layers on the right, rotating the paper 90 degrees perpendicularly to the front...

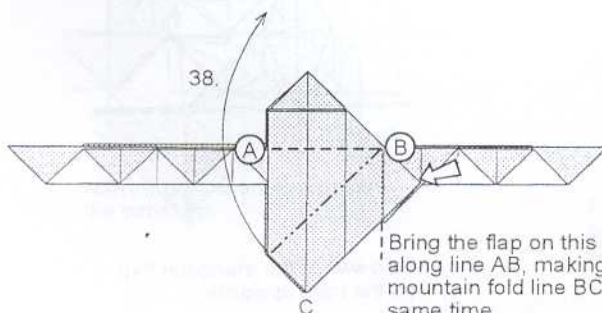
Turn the paper over and repeat from Step 21 on the other side.



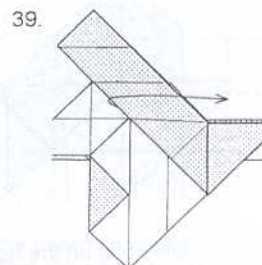
... as illustrated. Confer with Steps 27 and 28 of the Ryukin if necessary. Flatten the layers.



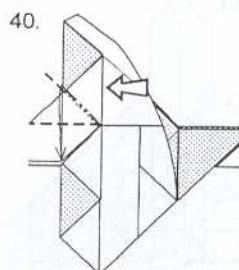
... like this. Now push the paper from the inside and reverse fold each of the four circled areas outwards, ...



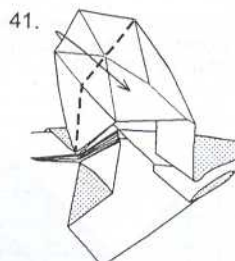
Bring the flap on this side up along line AB, making the mountain fold line BC at the same time.



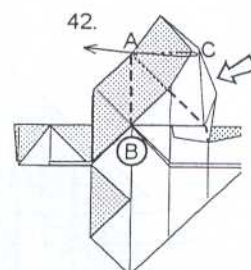
Open out to the right temporarily.



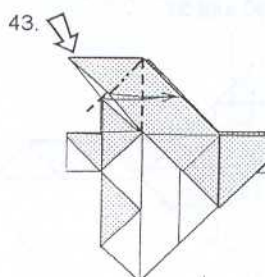
This is fairly similar to Steps 30 and 31. Reverse fold and swivel the excess paper down.



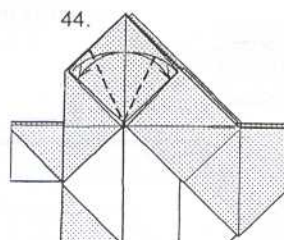
Valley fold, ...



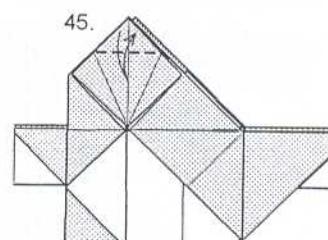
... then valley fold again along line AB while drawing line AC to the right, ...



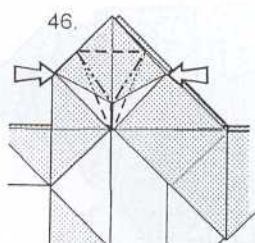
... closing up like this. Squash fold, ...



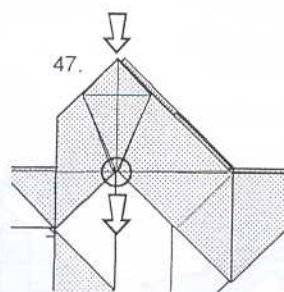
... then valley fold to the centre, crease firmly, and unfold.



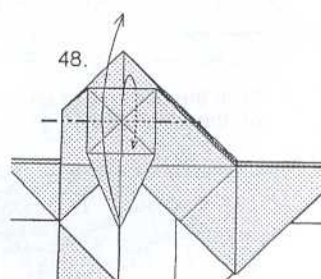
Fold and unfold, creasing firmly again.



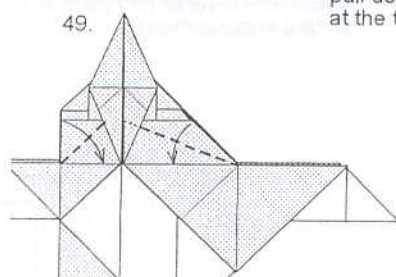
Reverse fold.



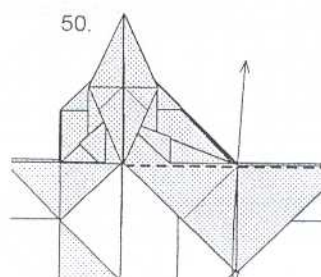
Grasp the circled point and pull down, while flattening at the top, ...



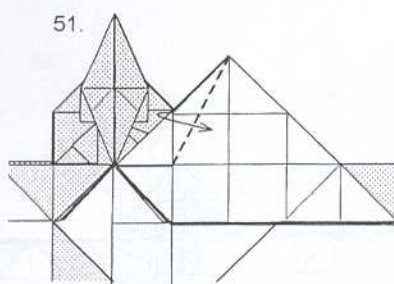
... like this. Mountain fold as illustrated, while swivelling the point up.



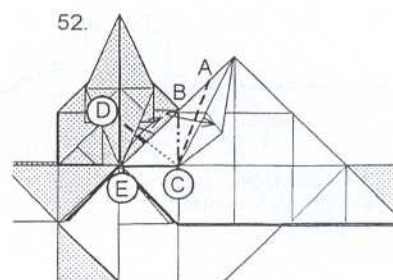
Valley fold on the right and left, ...



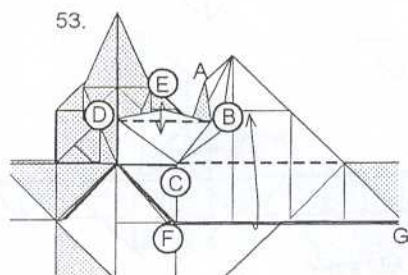
... then swivel the triangular flap on the right upwards.



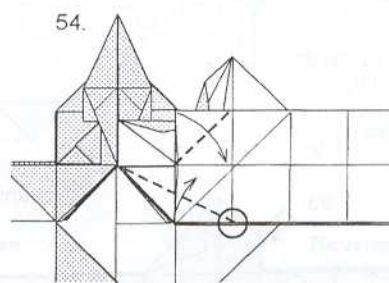
Valley fold to get this bit out of the way.



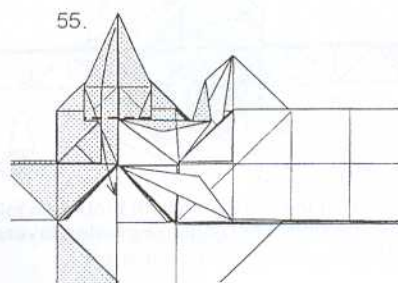
Valley fold along line AB, at the same time drawing point E towards point B, with another valley fold along DC. The mountain fold line BC will fall in place when you flatten the paper, ...



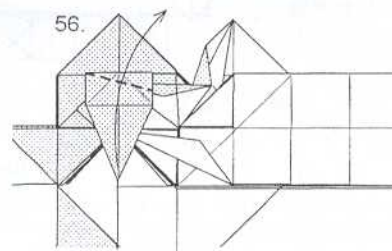
... like this. Valley fold along line DB, then swivel up one flap from the edge FG.



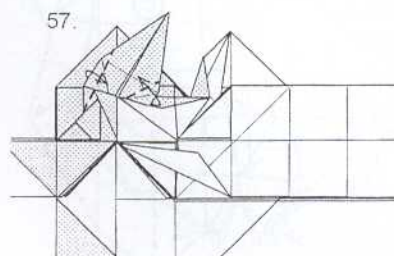
Valley fold the two corners out of the way. Note the circled landmark for the lower valley fold.



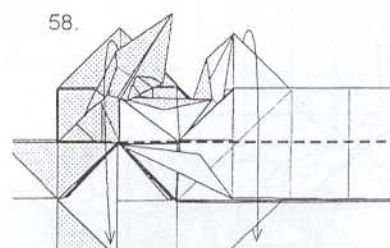
Fold down, ...



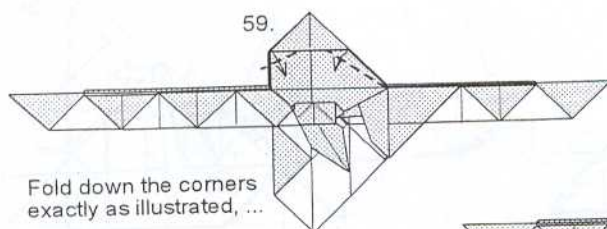
... and up again, at the angle shown.



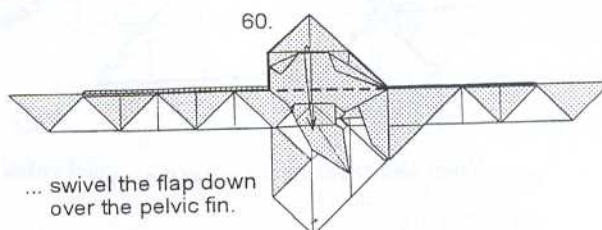
Narrow both sides to complete the pelvic fin.



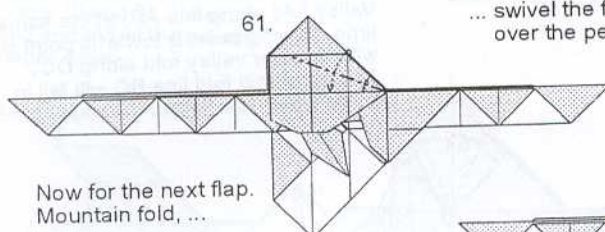
Fold down the pelvic fin, at the same time swivelling down the adjoining layers on the right.



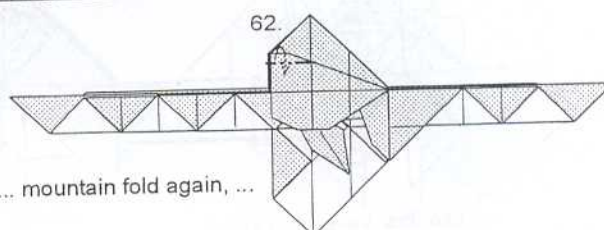
Fold down the corners exactly as illustrated, ...



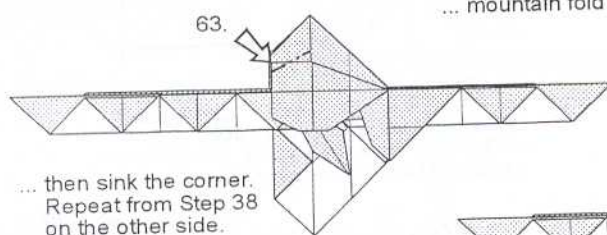
... swivel the flap down over the pelvic fin.



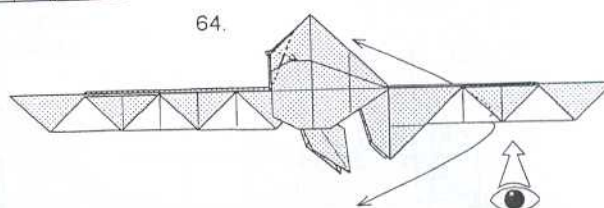
Now for the next flap. Mountain fold, ...



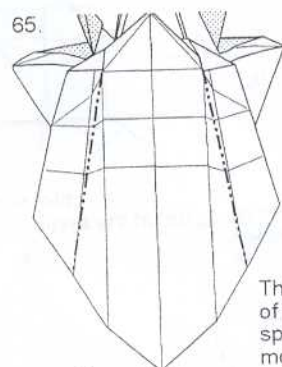
... mountain fold again, ...



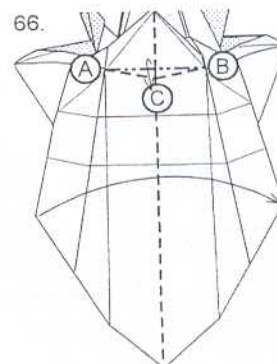
... then sink the corner. Repeat from Step 38 on the other side.



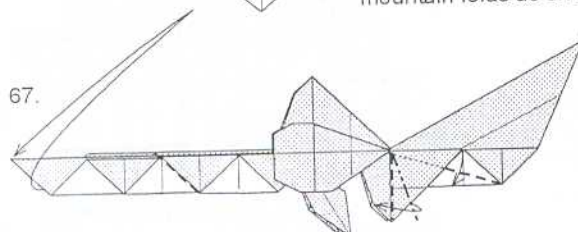
Shape the front of the dorsal fin with mountain folds on each side. That done, open out the pleated layers for the tail, on the right.



This is a view of the bottom of the tail, with the pleats spread out. Make two mountain folds as shown.

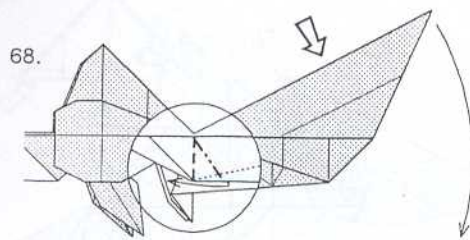


That done, form a crimp at ABC and fold the model in half.



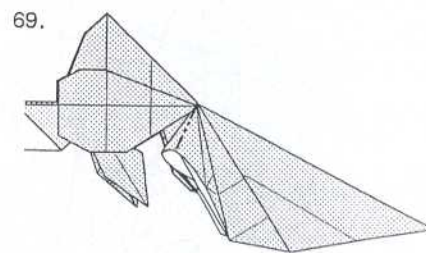
Fold and unfold on the left, creasing firmly through all layers.

The folds at the tail should be done in the same way as Step 52. Repeat on the other side.



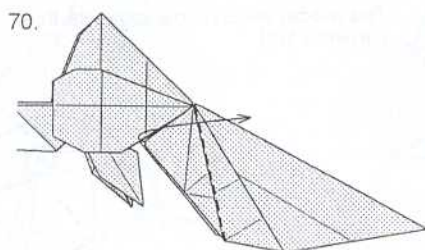
68.

Bring down the tail by crimping the four hidden layers at its base, allowing the outer layer on each side to billow temporarily.



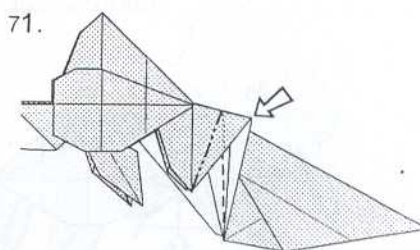
69.

Now flatten the outer layer on each side.



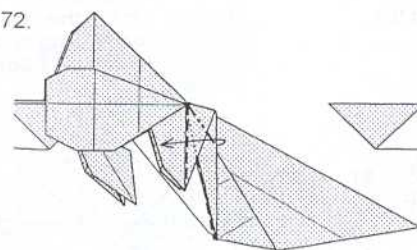
70.

Swivel to the right, including the hidden layers underneath.



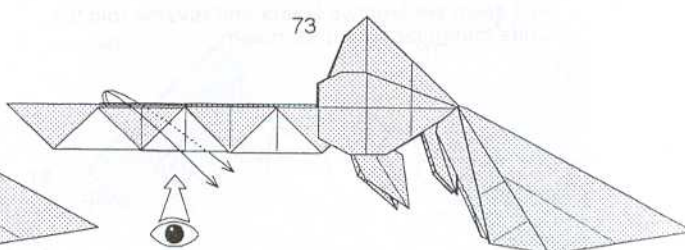
71.

Reverse fold, ...



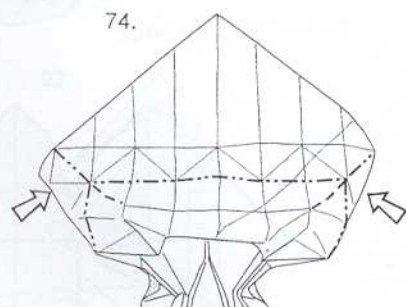
72.

... and close to the left as illustrated. Repeat from Step 70 on the other side.



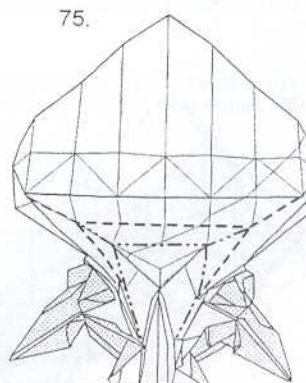
73.

Now for the head. Open out the pleats on the right entirely. The next figure will show a view of the underside of the pleated area.



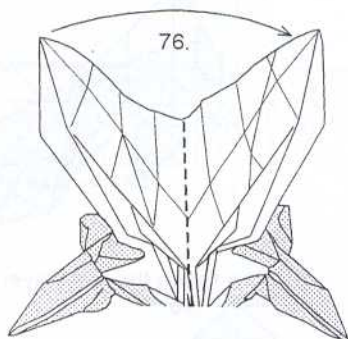
74.

Begin collapsing with the mountain fold lines as illustrated, ...

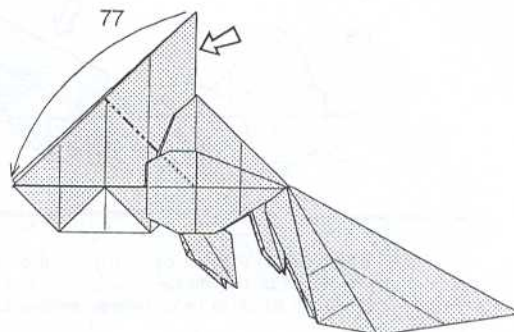


75.

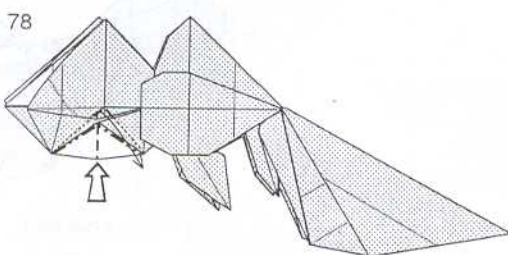
... pleating with a series of mountain and valley folds as you proceed, ...



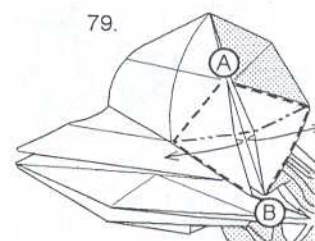
Now flatten out.



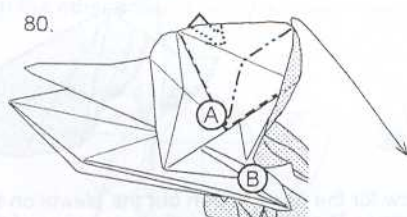
The model should now look like this.
Reverse fold.



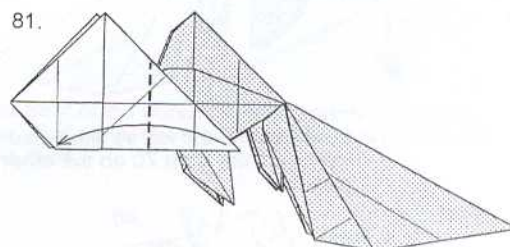
Pull down the first two layers and reverse fold the white triangular area underneath, ...



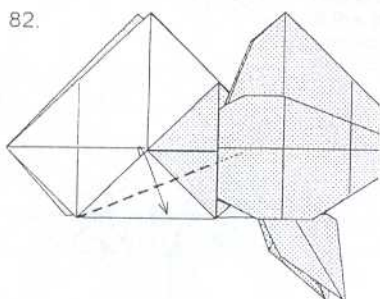
... like this. Lift out the layers on each side while continuing to reverse fold the back portion until Corner A meets Corner B.



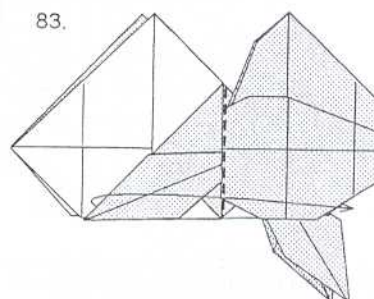
That done, push this area from the back to flatten this area completely



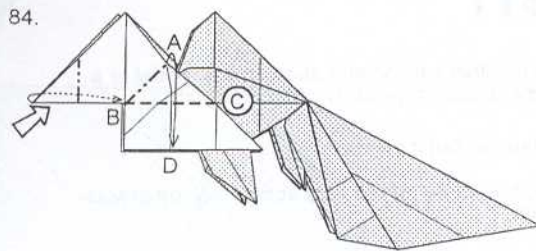
Valley fold to the left, ...



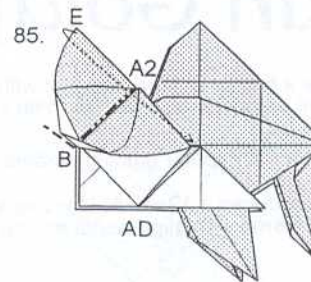
... and fold the first layer down to conceal much of the white area, to complete one of the pectoral fins.



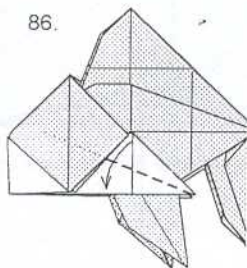
Swivel the pectoral fin to the right and repeat from Step 78 on the other side.



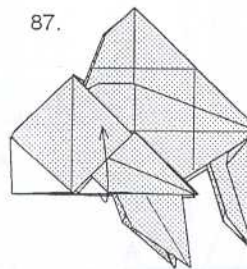
Inside reverse fold on the left. Next, valley fold along line BC to bring A down to D, ...



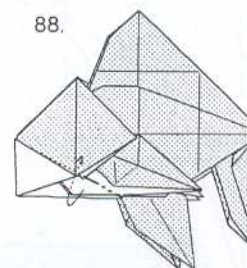
... like this. Outside reverse fold along line A2B, ...



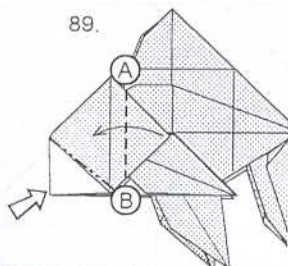
... such that both sides of the head looks like this. Valley fold to hide much of the white side of the paper.



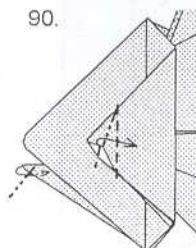
Lift up the pectoral fin and the layer immediately underneath,



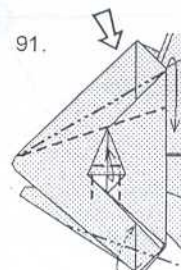
... and mountain fold the hidden corner underneath.



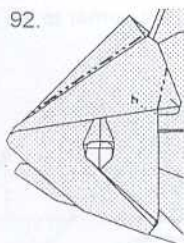
Reverse fold the white triangular area and valley fold along line AB.



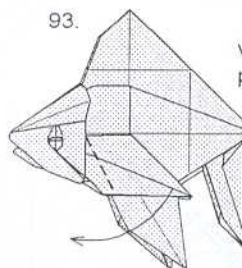
Fold the tip of the lower jaw under, and squash fold in the centre to form the eyes



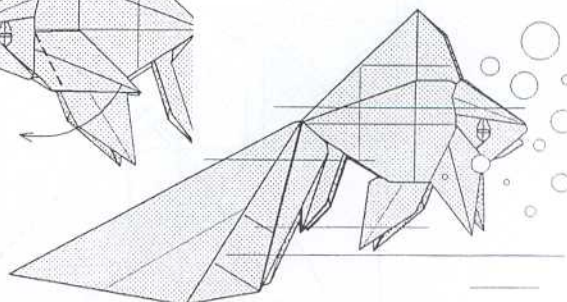
Continue shaping the eyes, lower jaw and crown as illustrated, ...



... then tuck the excess paper under with a mountain fold. Repeat from Step 86 on the other side.

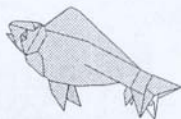


Valley fold both pectoral fins into position and you're all done!



Check out the Wakin for another, simpler way to do the eyes.

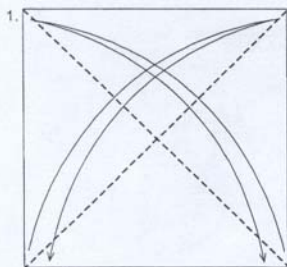
Wakin Goldfish



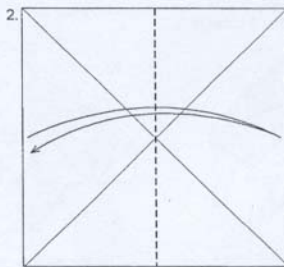
Wakin looks a bit like a Japanese Koi with a mini goldfish tail. When I showed the model to a group of origami enthusiasts, I got the "You sure there is such a goldfish variety?" look.

Probably the least popular goldfish strains in Singapore, but it exists alright.

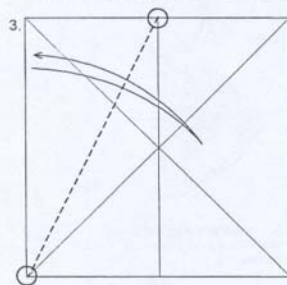
My square produces a 13cm Wakin. Steps 1 to 20 has to be folded very accurately, otherwise you will have problems with alignments as you go along.



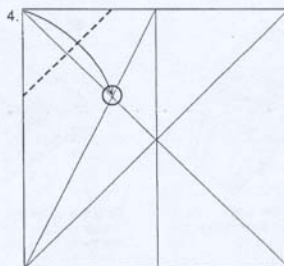
1. Fold diagonally in half, crease well, and unfold. Repeat in the opposite direction.



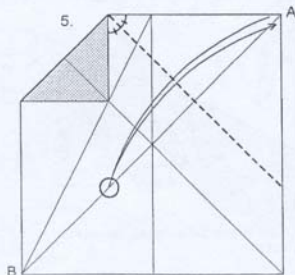
2. Fold vertically in half, crease well, and unfold again.



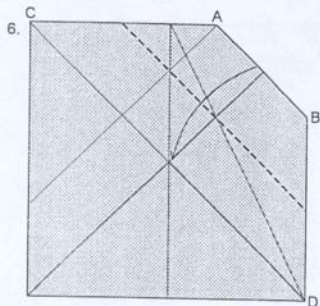
3. Fold between the two circled landmarks, crease and unfold again.



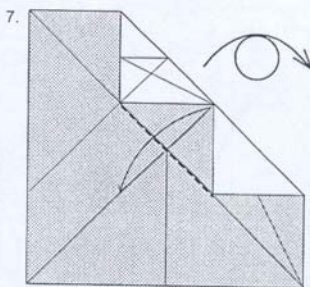
4. Valley fold the corner to the circled landmark.



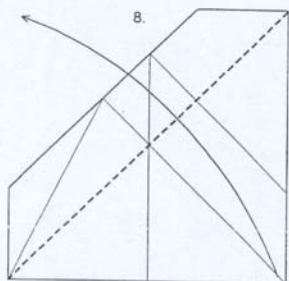
Fold and unfold as shown. Corner 'A' should fall exactly on the diagonal crease line AB. Turn paper over.



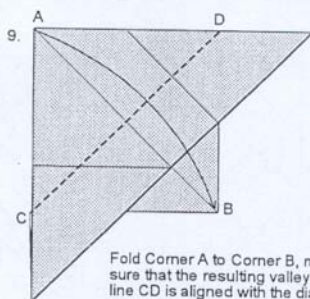
Align the edge AB with diagonal crease CD.



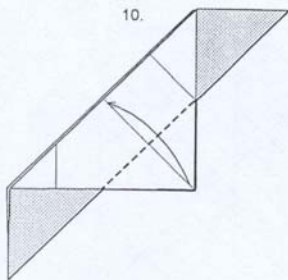
Unfold the triangular layer in the centre towards the left bottom corner, then turn the paper over.



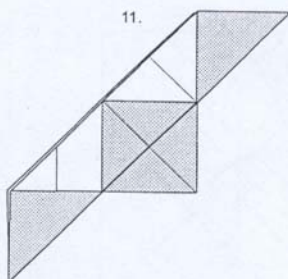
Fold one layer diagonally to the top left.



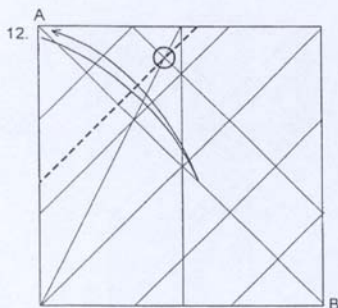
Fold Corner A to Corner B, making sure that the resulting valley fold line CD is aligned with the diagonal edge underneath, ...



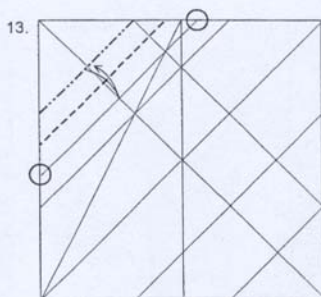
... then valley fold once more, again aligning with the diagonal edge underneath.



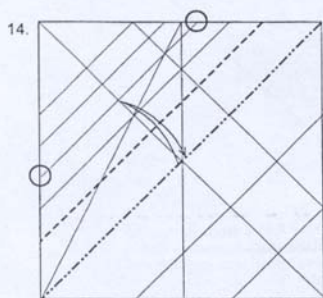
Now unfold completely to the position at the start of Step 4, ...



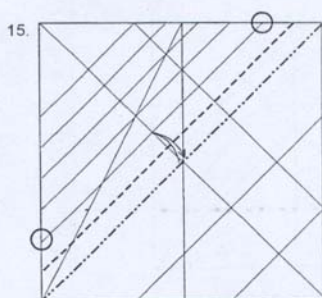
Fold and unfold diagonally as shown, through the circled landmark. Corner A should lie exactly along the diagonal line AB.



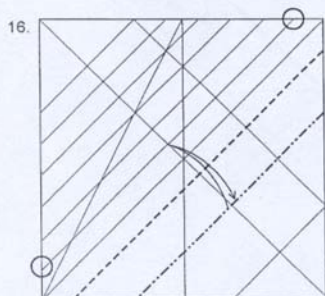
Align the mountain fold line to the line marked by the two circled landmarks, crease, and unfold.



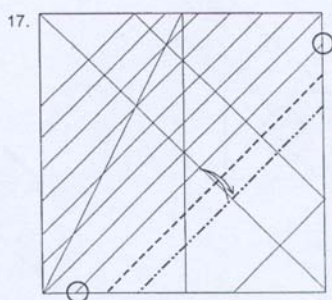
Continue doing the same as illustrated, ...



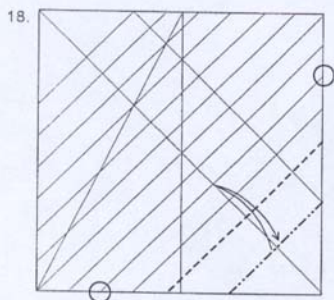
... again, ...



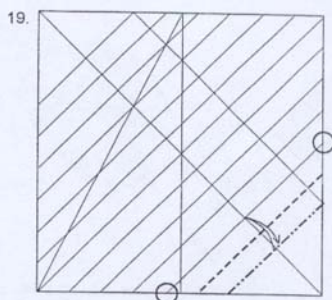
... and again, ...



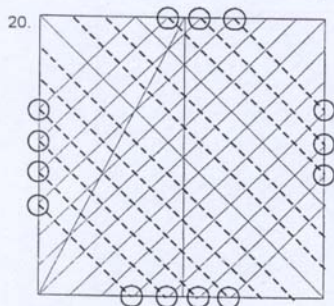
... and again, ...



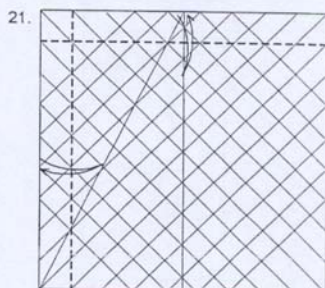
... and again, ...



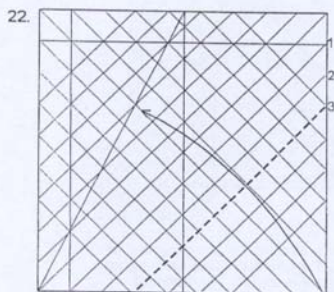
... and again. Each of the diagonal divisions should be exactly $\frac{1}{18}$ th the length of the diagonal



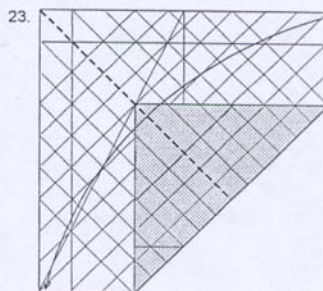
Using the circled landmarks, continue the precreasing in the opposite direction.



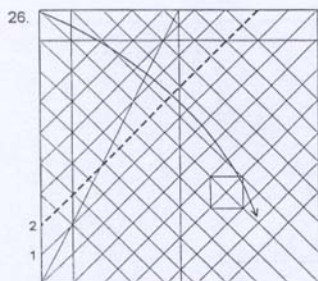
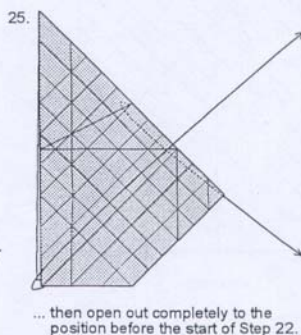
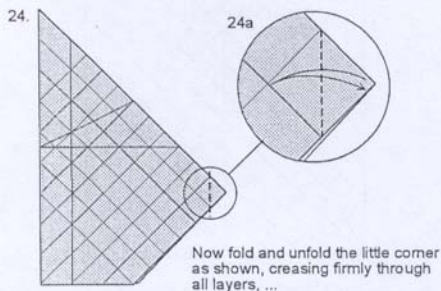
Fold and unfold as illustrated, creasing firmly



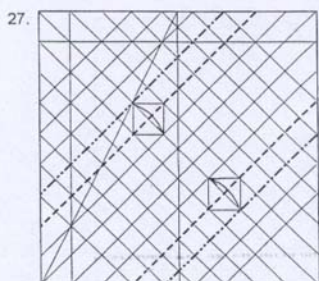
Valley fold, ...



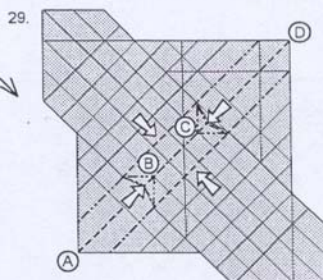
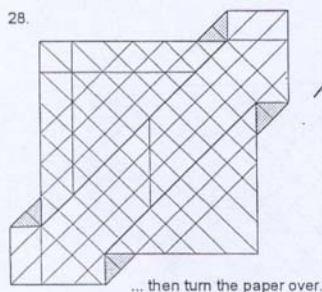
... then fold diagonally in half.



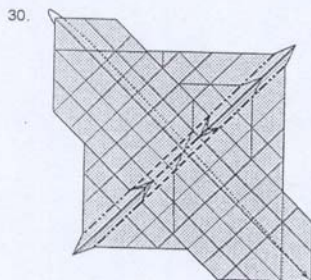
Valley fold, then repeat Steps 23 to 25 on this section.



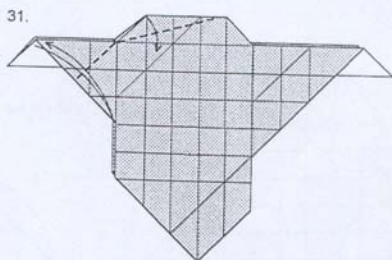
Pleat fold twice, ...



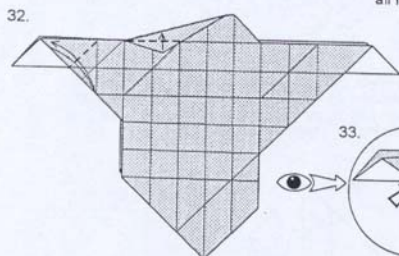
Push in each end of the mountain fold line BC, using the crease lines formed in Step 24a and 26. The central diagonal pleats will be drawn together and the valley fold lines AB and CD should be formed as a result, ...



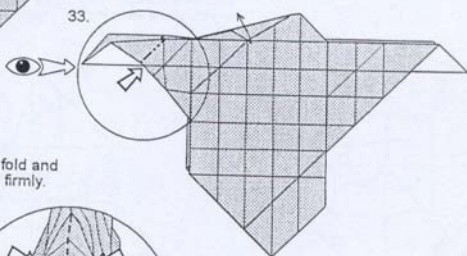
... like this. Now mountain fold the paper in half.



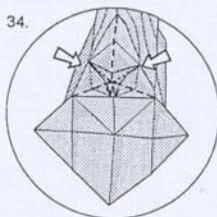
Valley fold at the top, then fold and unfold on the left as shown, creasing firmly through all layers.



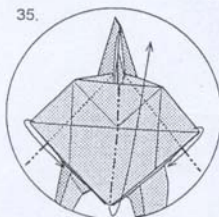
Valley fold at the top, then fold and unfold on the left, creasing firmly.



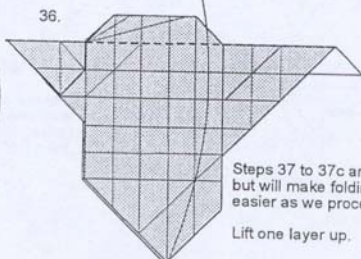
... like this, as seen from the left. Close up as shown, ...



Now push from the bottom to separate the pleated layers, ...



... then lift the bottom corner of this piece up to flatten this section ...

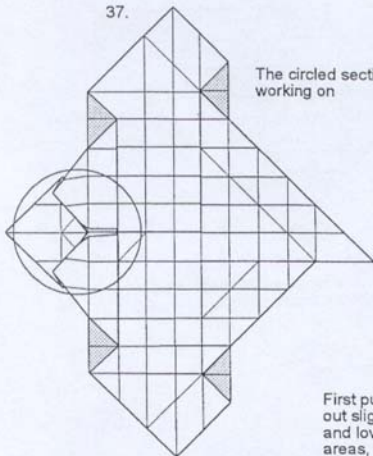


Steps 37 to 37c are optional, but will make folding a little easier as we proceed.

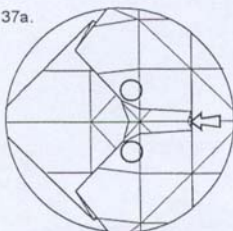
Lift one layer up.

37.

The circled section is where we will be working on

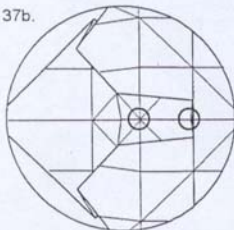


37a.



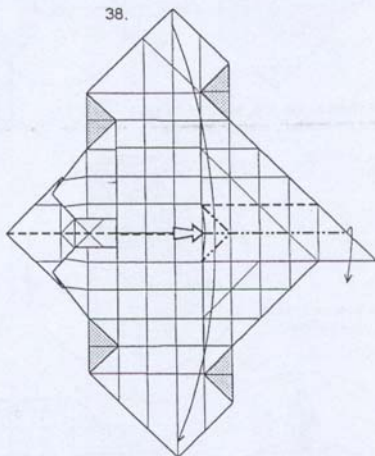
First push in between the vertical layers on the right to open out slightly as indicated by the arrow. Next, flatten the upper and lower sections by pushing down gently at the circled areas, while keeping the layers underneath in position, ...

37b.



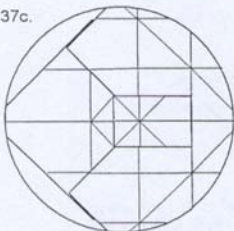
... like this.
Push down around the circled areas to flatten completely, ...

38.



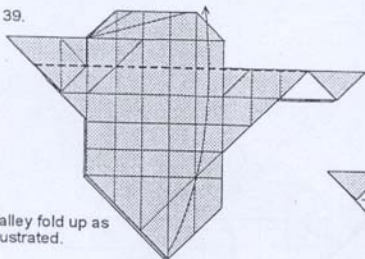
The right side of the paper is to be folded in the same way as Steps 13 to 15 of the Ryukin. That done, repeat this step behind, then fold the paper horizontally in half.

37c.



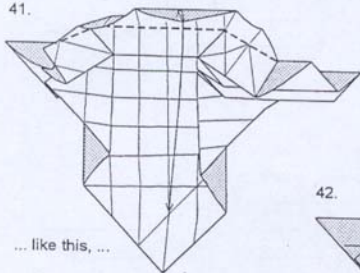
... until you get this.

39.



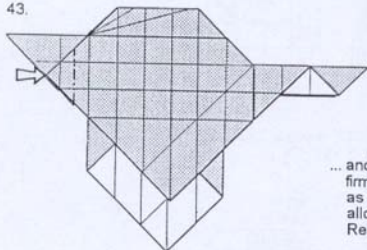
Valley fold up as illustrated.

41.



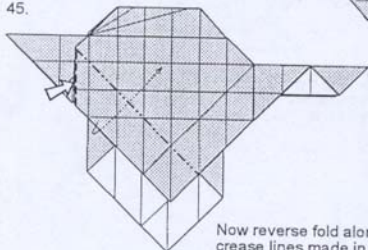
... like this, ...

43.



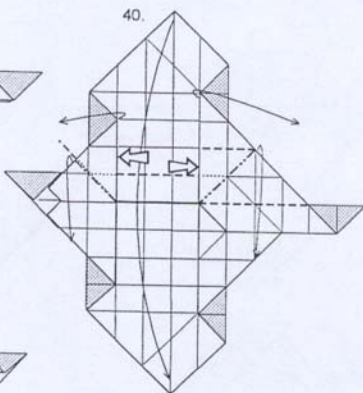
Reverse fold along the crease lines made in Step 42.

45.



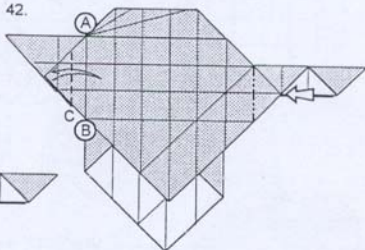
Now reverse fold along the crease lines made in Step 44.

40.



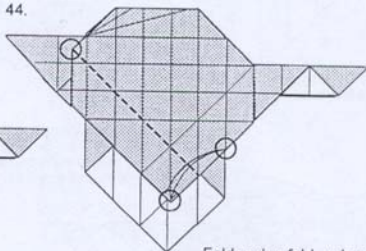
Push the vertical edge on each side outwards as you bring down the flap at the top, ...

42.



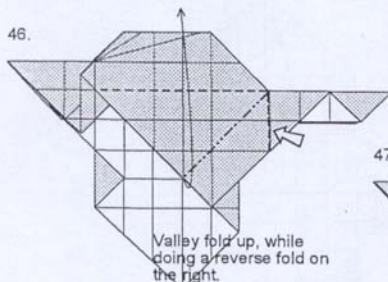
... and this. Fold and unfold on the left, creasing firmly. Note that the valley line should extend as far as the layers at the lower end (C) will allow, and is parallel to crease line AB. Reverse fold on the right.

44.



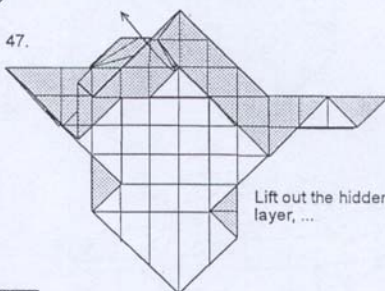
Fold and unfold, using the circled landmarks. Crease firmly.

46.



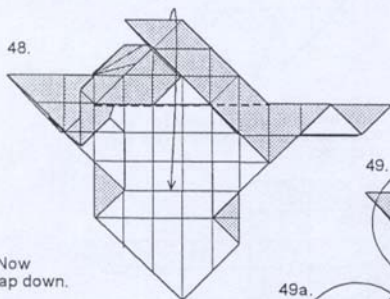
Valley fold up, while
doing a reverse fold on
the right.

47.



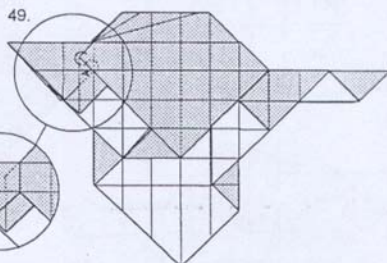
Lift out the hidden
layer, ...

48.



... like this. Now
fold the flap down.

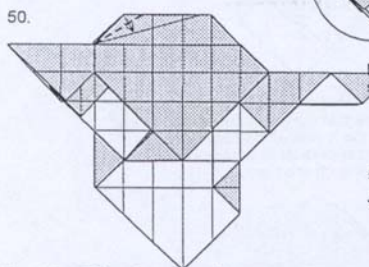
49.



49a.

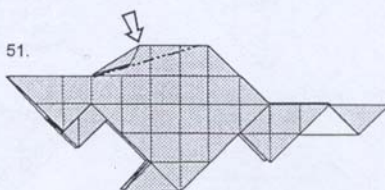
Now tuck this corner under as
shown in Step 49a.

50.



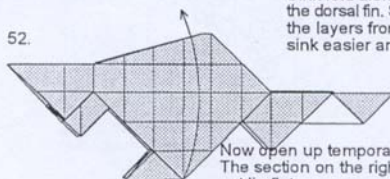
Repeat from Step 39 on the other side,
then valley fold at the top.

51.

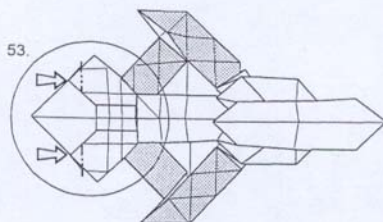


Sink fold along existing crease lines to shape
the dorsal fin. Sticking a couple of fingers
between the layers from below will help in making the
sink easier and neater.

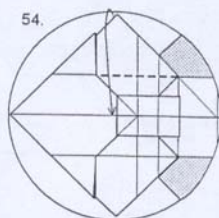
52.



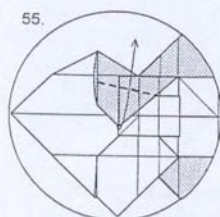
Now open up temporarily.
The section on the right will
not lie flat.



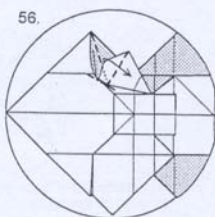
We will now work on the tail. First, reverse fold the corners as indicated, ...



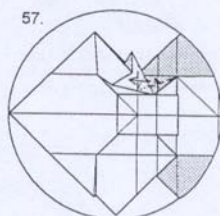
Valley fold down, ...



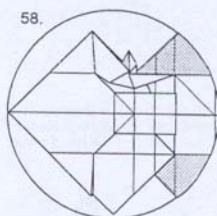
... then up again at the illustrated angle.



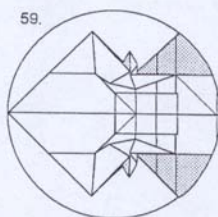
Narrow as shown, ...



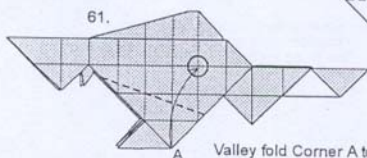
... and a little more.



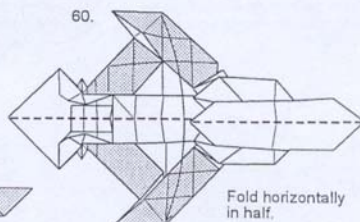
Repeat Steps 54 to 57 on the corresponding section below.



Section done.

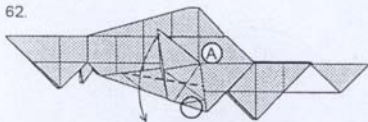


Valley fold Corner A to the circled landmark, creasing firmly, then repeat behind.



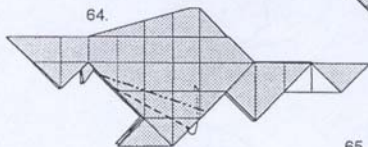
Fold horizontally in half.

62.



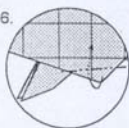
Valley fold Corner A to the the circled area.
Repeat on the other side.

64.



... then mountain and valley fold both
sides along the crease lines to tuck
the excess paper within the body, ...

66.

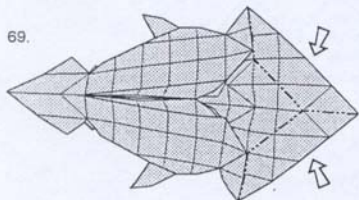


67.



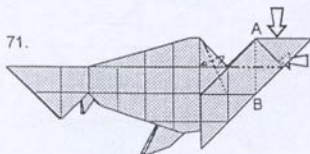
... then shape both sides of the body as
illustrated above.

69.



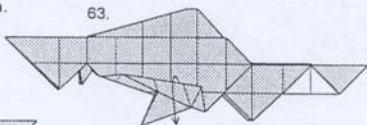
Form the mountain fold lines as
illustrated, then begin closing up
again, ...

71.



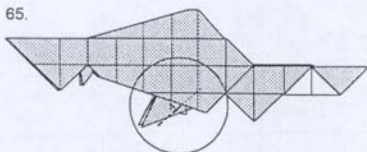
First, mountain fold both layers at the front of the
dorsal fin within itself. Next, push the hidden edge
AB from between the layers on the right to flatten
the top of the head piece, ...

63.



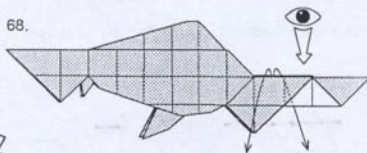
Now open out the pleated layers
at the belly, ...

65.



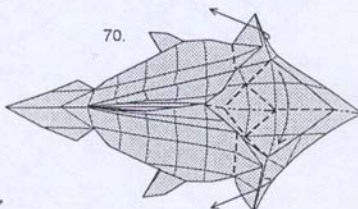
Narrow the base of both fins with
mountain folds, ...

68.

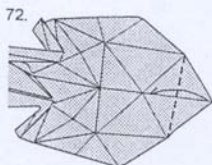


Open up and separate the pleats on the
right. The next step will show a view of
the model from the top of the head piece.

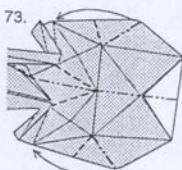
70.



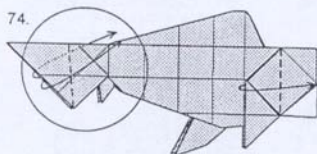
... like this, forming the valley and
mountain fold lines as you bring
the head piece up towards the
dorsal fin.



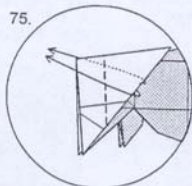
Valley fold, ...



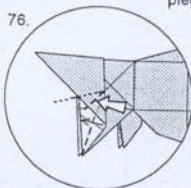
... then flatten as shown, ...



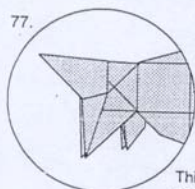
... like this. Outside reverse fold the tail and valley fold all layers on both sides of the head.



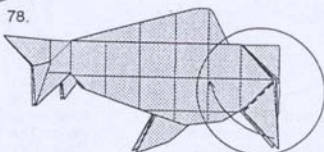
Outside reverse fold the tail piece again, ...



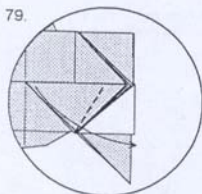
... and crimp fold as illustrated.



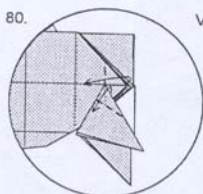
This is what the completed tail should look like.



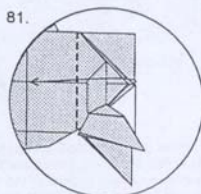
Valley fold one flap up, ...



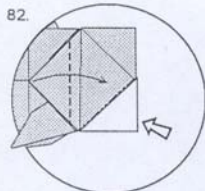
... then down again as shown.



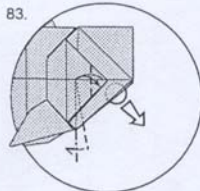
Do the lower valley fold first, followed by the vertical valley fold immediately behind.



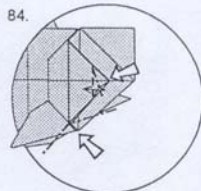
Repeat from Step 78 on the other side, then swivel both flaps on each side towards the tail



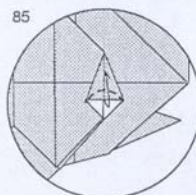
Reverse fold the white area and valley fold the flaps on both sides of the head.



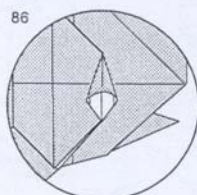
Pull the lower jaw down a little, then valley fold the flap on both sides of the head again as illustrated.



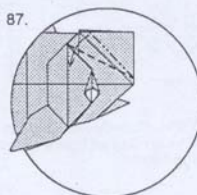
Squash fold to form the eye, then mountain fold the base of the lower jaw. Repeat behind.



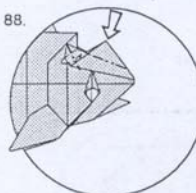
Lift this layer up with a crescent-shaped valley fold.



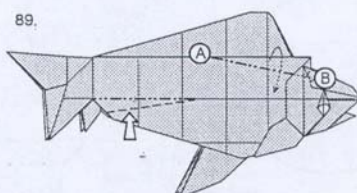
Repeat behind.



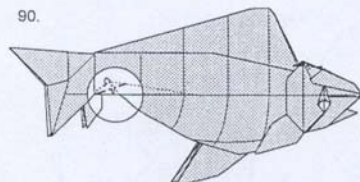
Crimp fold both sides as shown, ...



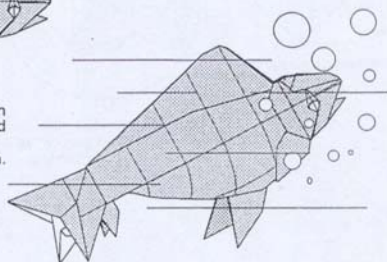
... then sink the crown and mountain fold the corners on both sides of the head.



First, mountain fold along line AB to hide the excess paper. That done, crimp fold the body as illustrated. Repeat on the other side.

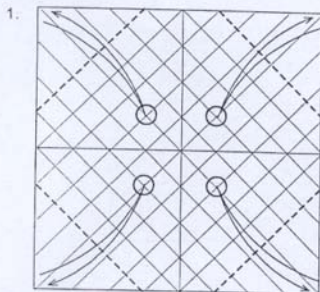
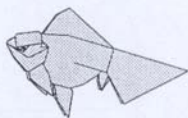


Lock the crimp in place with a mountain fold within the body, then mountain fold the corner at the crown of the head. Repeat behind to complete the Wakin.

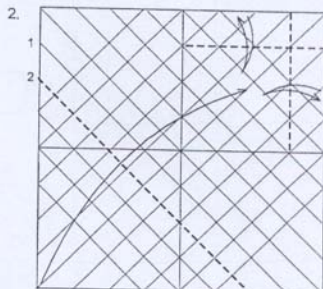


Orando Goldfish

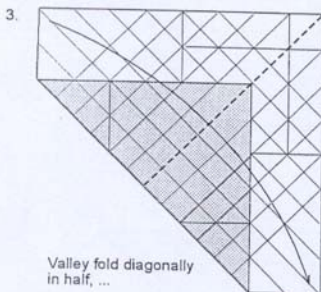
A 25cm square will produce a model of about 11cm.
Begin from Step 6 of the Ryukin.



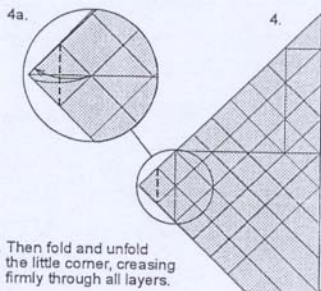
Fold and unfold each of the four corners to the circled landmarks to create additional crease lines.



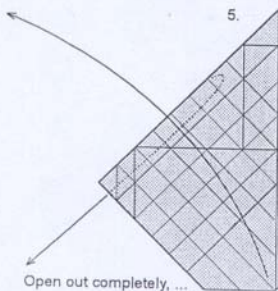
First, fold and unfold twice in the top right quadrant, then valley fold the bottom left corner as illustrated.



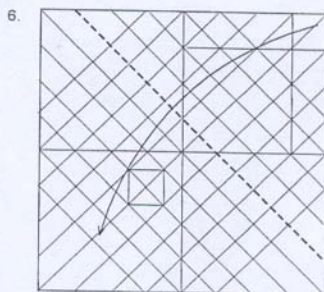
Valley fold diagonally in half, ...



... Then fold and unfold the little corner, creasing firmly through all layers.

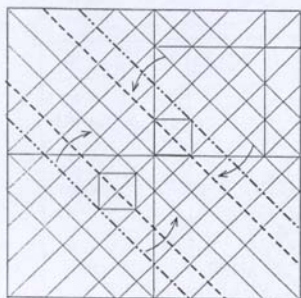


Open out completely, ...

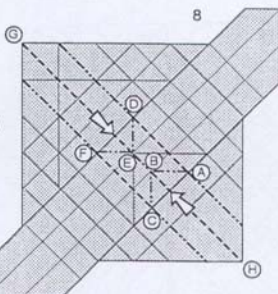


... valley fold as shown, and repeat Steps 3 to 5.

7.

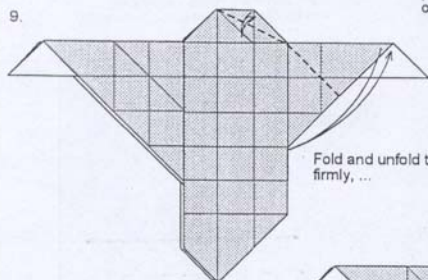


Now pleat fold twice as shown,
turn paper over, ...



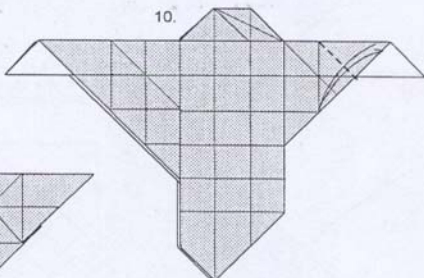
... and push the edges along the base of
triangles ABC and DEF, to collapse the
paper in the same way as Steps 29 to 30
of the Wakin Goldfish.

9.



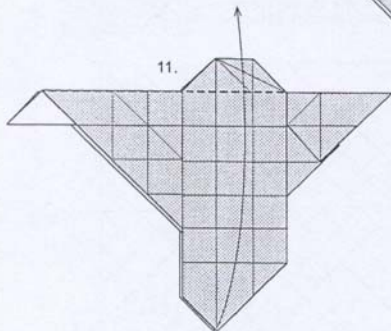
Fold and unfold twice, creasing
firmly, ...

10.

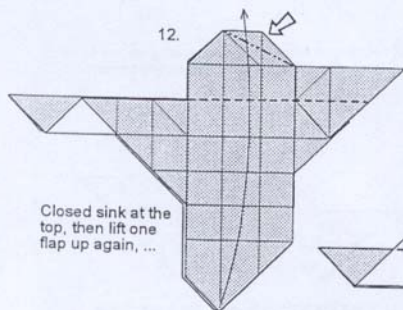


... and fold and unfold again,
then fold through Steps 33 to
37c of the Wakin Goldfish.

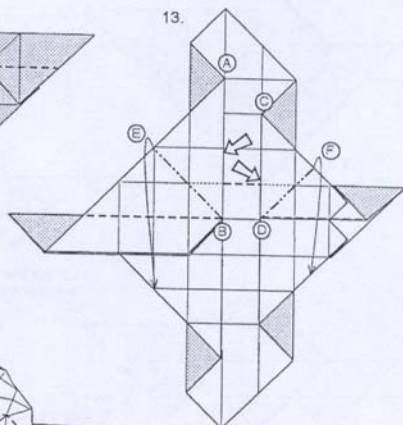
11.



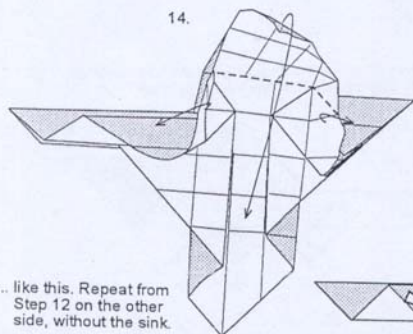
Fold one flap up, and fold through Steps
38 and 39 of the Wakin. That done, repeat
on the other side.



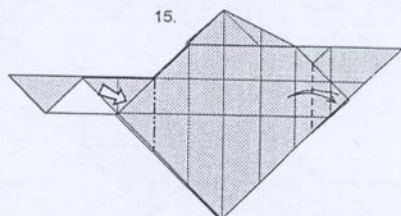
Closed sink at the top, then lift one flap up again, ...



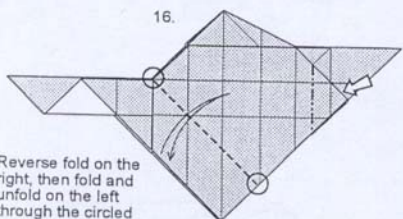
Spread the pleated layers out by pushing along edges AB and CD, while swivelling points E and F downwards, ...



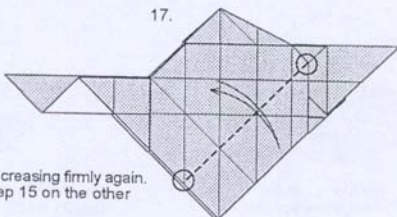
... like this. Repeat from Step 12 on the other side, without the sink.



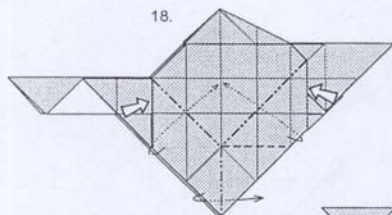
Now fold and unfold on the right, creasing well, then reverse fold on the left.



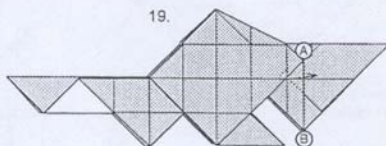
Reverse fold on the right, then fold and unfold on the left through the circled landmarks, creasing firmly.



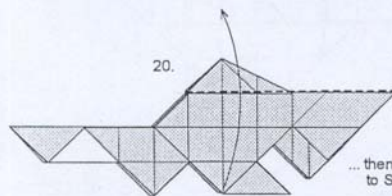
Fold and unfold, creasing firmly again. Repeat from Step 15 on the other side.



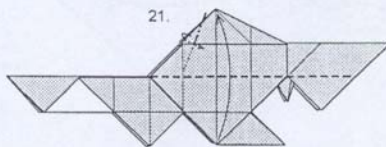
Reverse fold both sides as diagrammed, swivelling the resulting tab at the bottom to the right.



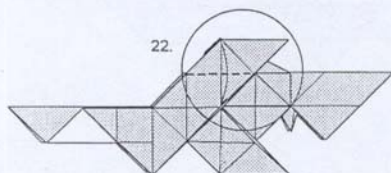
Lift out the hidden layer at the base of the tail over the edge AB, ...



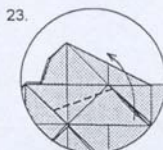
... then lift up one flap and complete the tail according to Steps 53 to 60 of the Wakin goldfish.



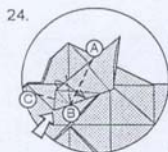
Shape the front of the dorsal fin with mountain folds on each side, tucking the excess paper within the pocket. That done, lift one flap up again as illustrated.



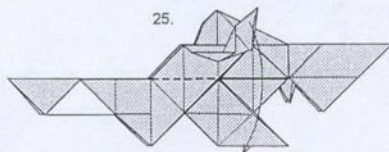
Valley fold down, ...



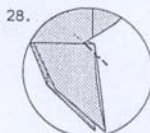
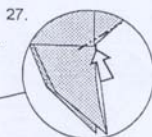
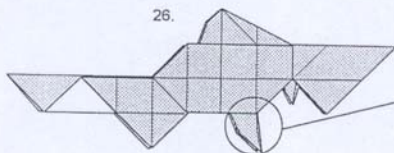
... then up again.



Valley fold along line AB first. This will cause a pocket to be formed on the left along line BC, ...

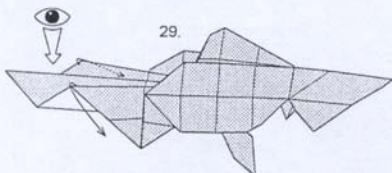


... like this. Bring down this flap and repeat from Step 21 on the other side of the body.

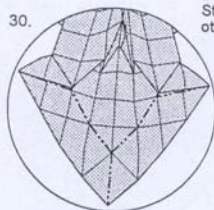


Sink this corner, ...

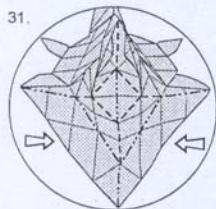
... then mountain fold to finish the fin. Repeat from Step 27 on the other side.



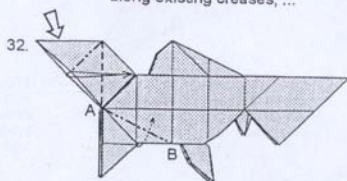
Open up the pleated layers on the left, ...



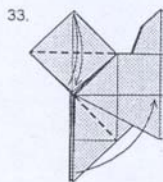
... shape the mountain fold lines along existing creases, ...



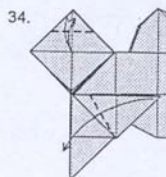
... then flatten according to the illustrated mountain and valley fold lines, ...



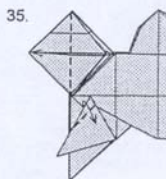
... like this. Squash fold on the top left, and mountain fold along line AB on both sides to hide the excess paper within the body.



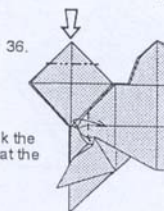
We will now shape the head and pectoral fin like this, ...



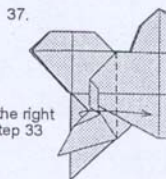
... and this, ...



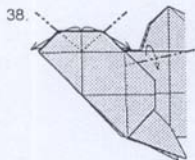
... and so on, ...



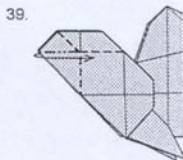
... and on. Open sink the triangular corner at the top left.



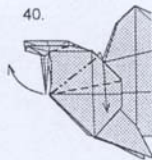
Swivel this flap to the right and repeat from Step 33 on the other fin.



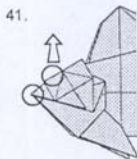
Reverse fold the hidden layers on the top left, then mountain fold both sides of the body as shown.



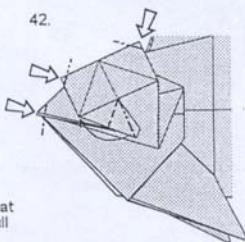
Swivel the corners to each side as illustrated, ...



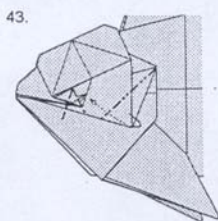
... flattening the top, then crimp fold both sides of the head, ...



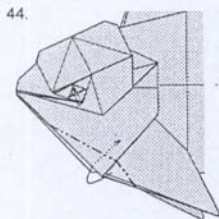
... like this. Hold the model at the circled areas and pull the crown very slightly upwards.



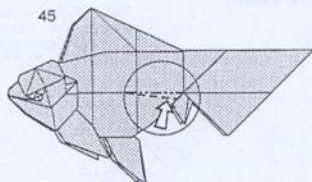
Sink each of the three indicated corners. Swivel the little tabs in the middle of both sides to the left as shown.



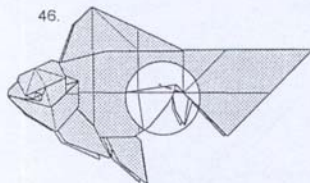
Shape the side of the head with a mountain fold, then separate one layer of the little tab to the right and squash fold. Repeat on the other side.



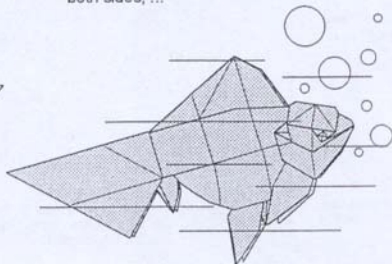
Effect a colour change of the eye with a valley fold. Mountain fold the fin and base of the head. Repeat behind.



Round out the body with crimps on both sides, ...



... and lock the crimps in place with valley folds within the body.

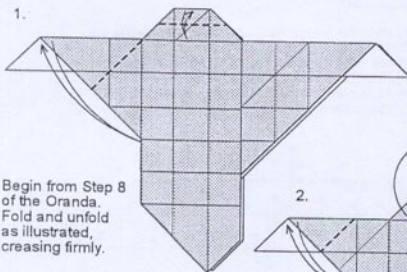


Ranchu Goldfish



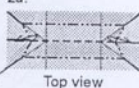
The Ranchu is about as close to a living, swimming tennis ball as a goldfish can get. The more spherical the fish is, the more it is prized. Other desired characteristics are the jelly-like plume of its crown, and the vibrance of its colour. A 25cm square will produce a 11.5cm Ranchu.

1.

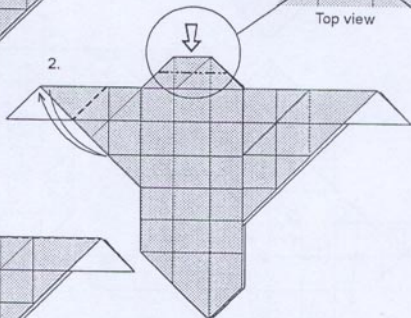


Begin from Step 8 of the Oranda. Fold and unfold as illustrated, creasing firmly.

2a.

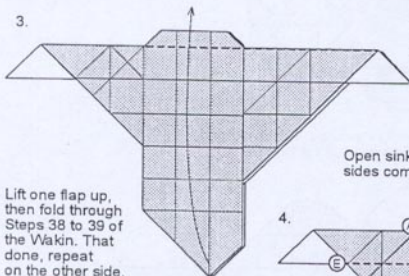


2.



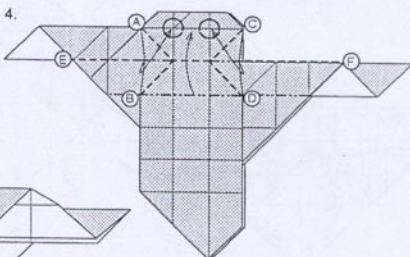
Open sink at the top, opening the right and left sides completely, as shown in diagram 2a.

3.



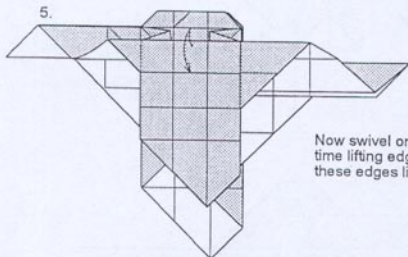
Lift one flap up, then fold through Steps 38 to 39 of the Wakin. That done, repeat on the other side.

4.



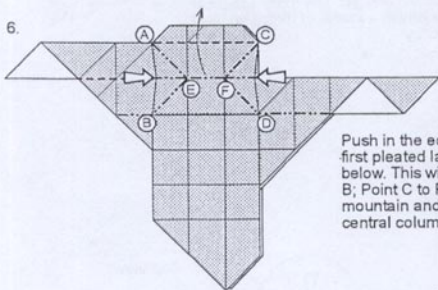
Now swivel one flap up along line EF, at the same time lifting edges AB and CD such that the middle of these edges lie on the respective circled landmarks, ...

5.



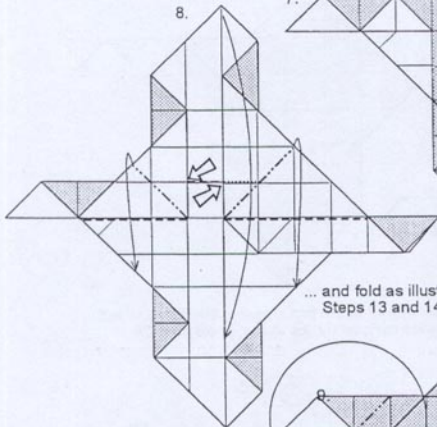
... press flat, crease firmly, and unfold. Repeat Step 4 on the other side.

6.

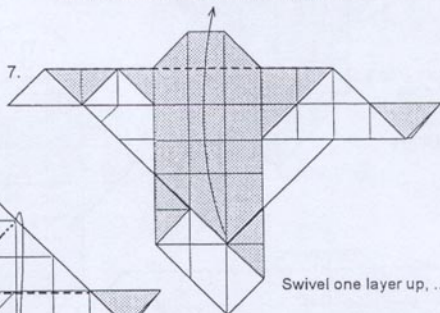


Push in the edges ABE and CDF, separating the first pleated layer from the layer immediately below. This will allow you to bring Point A to Point B; Point C to Point D, and edge EF upwards. The mountain and valley folds on each side of the central columns should follow naturally.

8.



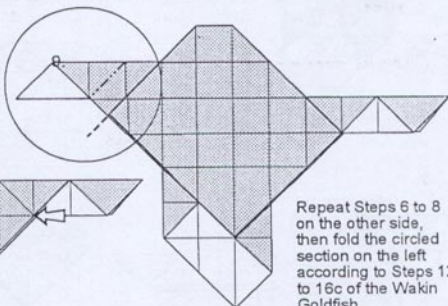
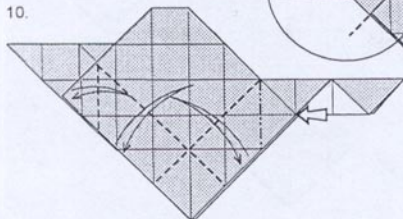
7.



Swivel one layer up, ...

... and fold as illustrated. This is similar to Steps 13 and 14 of the Oranda.

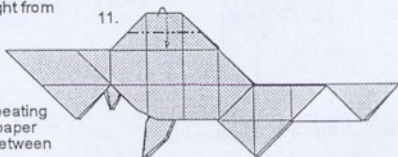
10.



Repeat Steps 6 to 8 on the other side, then fold the circled section on the left according to Steps 12 to 16c of the Wakin Goldfish.

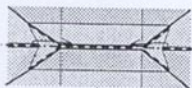
Fold through Steps 15 to 28 of the Oranda, except the fold on the dorsal fin at Step 21. Please note that the above illustration is transposed left to right from Figure 15 of the Oranda. Repeat behind.

11.



Mountain fold as illustrated, repeating on the other side. The excess paper should be mountain folded in between the sink fold made in Step 2.

11a.

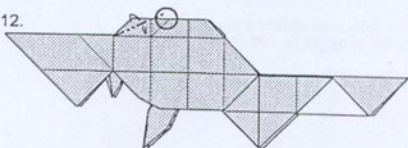


11b.



Reverse fold the little flap lying on the right and left sides of the sink fold made in Step 2.

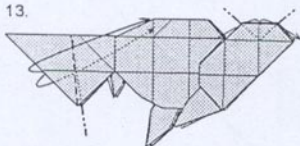
12.



Hold the layers together at the circled area, then mountain fold both sides of the paper within the pocket. Take care not to tear the little tab folded in Step 11a and 11b. The tab helps hold the layers together along the spine of the Ranchu.

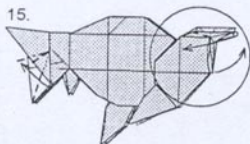
That done, continue to fold the Ranchu through Steps 29 to 37 of the Oranda.

13.



Reverse fold the two hidden tabs on the right, then do an outside reverse fold of the tail piece on the left.

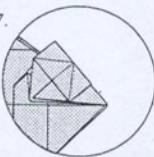
15.



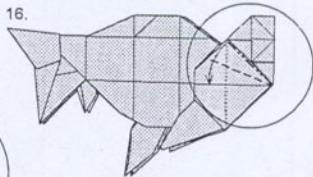
Complete the tail, then swivel the layers of the head to the position shown in Figure 16.

... then fold through steps 41 to 44 of the Oranda to complete the head.

17.

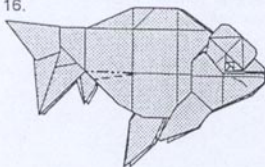


16.

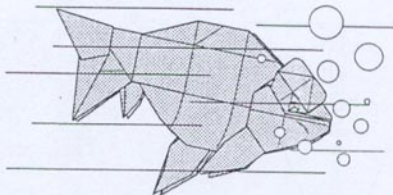


Crimp fold both sides of the head as shown, ...

16.



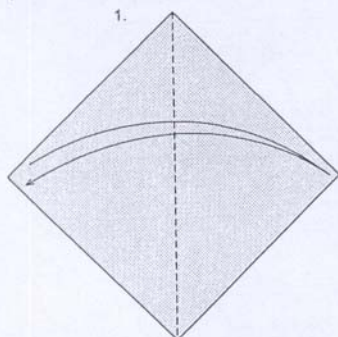
Round out the body with crimps on both sides as in Steps 45 and 46 of the Oranda to complete the Ranchu.



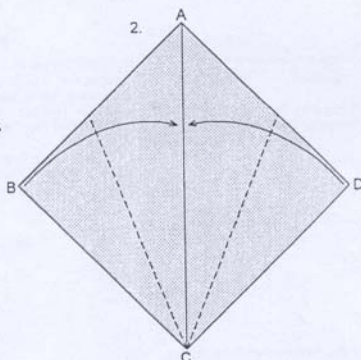
Okay, I know this is not a typical top quality Ranchu, but a specimen this good will still set you back quite a bit.

ancho Orando

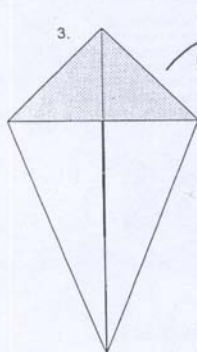
A square that is red on one side, and white on the other.
An 14cm square produces a model of approximately 14cm.



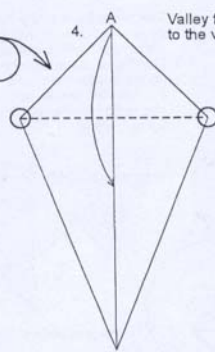
With the red side faced up, fold diagonally in half, crease firmly, and unfold.



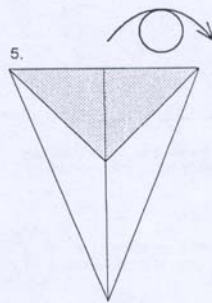
Valley fold the edges BC and DC to the vertical crease line AC.



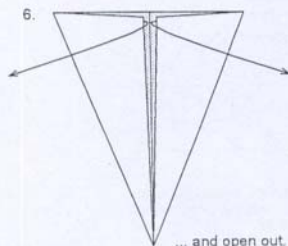
Turn the paper over ...



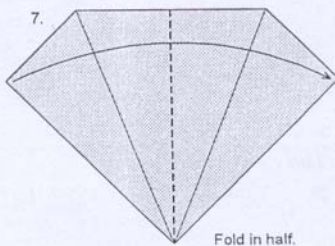
... and fold along the circled landmarks to bring Corner A down.



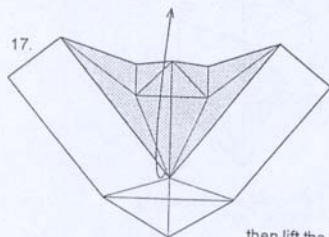
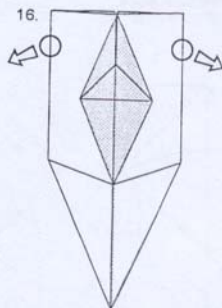
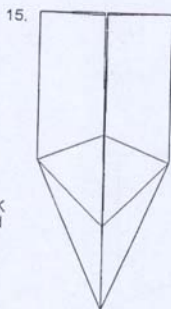
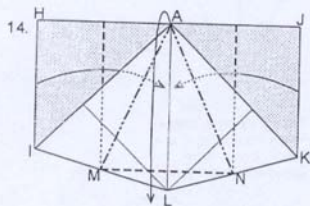
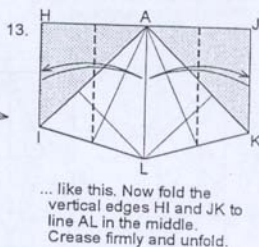
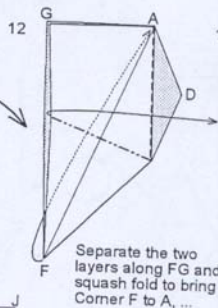
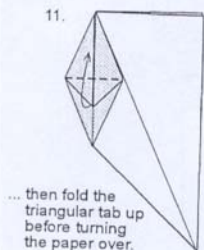
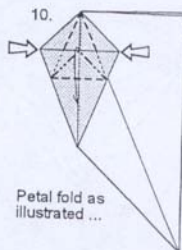
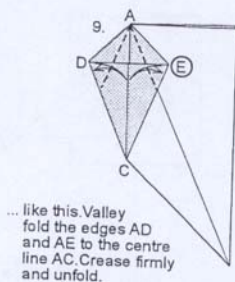
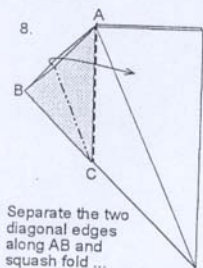
... like this. Turn the paper over again ...

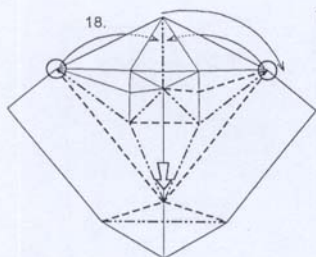


... and open out.

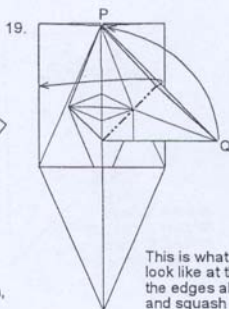


Fold in half.

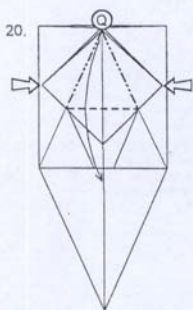




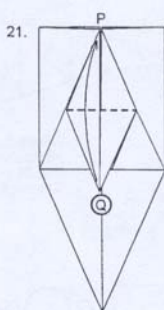
Bring the two circled corners together again, collapsing the paper in the centre along existing crease lines as illustrated.



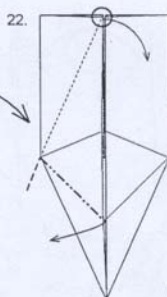
This is what the model should look like at this stage. Separate the edges along diagonal PQ and squash fold.



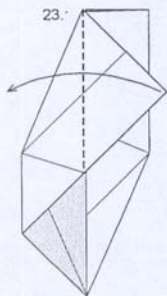
Reverse fold both sides, while bringing Point Q down ...



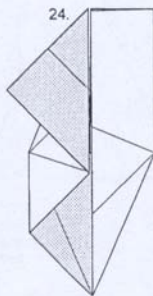
... and up again. Turn over.



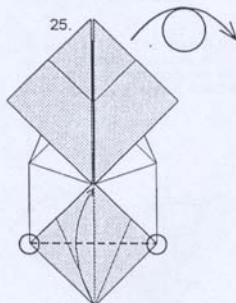
Using existing crease lines on the front and back, swivel one layer as illustrated, ...



Valley fold to the left ...

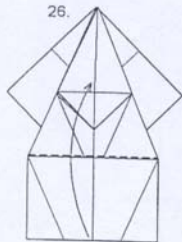


... then repeat Steps 22 and 23 on the right side.



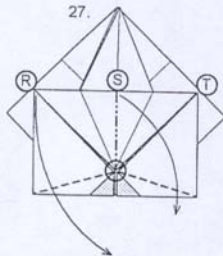
Valley fold up, then turn the model over.

26.



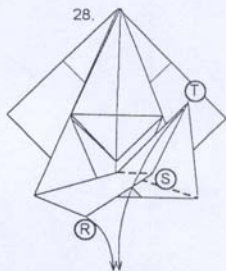
Fold up the rectangular section at the bottom.

27.



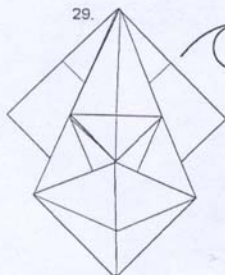
Now use the existing crease lines and bring Corners R and T down to meet at the bottom, ...

28.



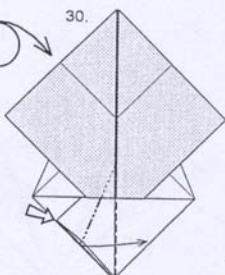
... like this ...

29.



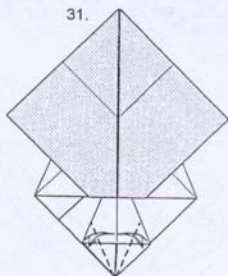
... until it looks like this. Now turn the model over.

30.



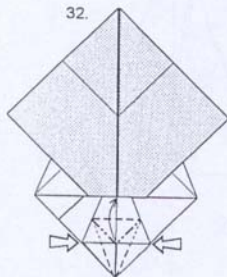
Squash fold. You will need to open out some of the overlapping layers temporarily to be able to do this.

31.



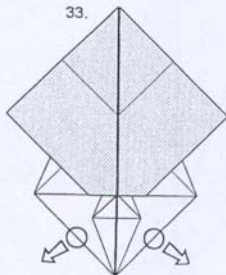
Fold and unfold the first layer, creasing firmly.

32.



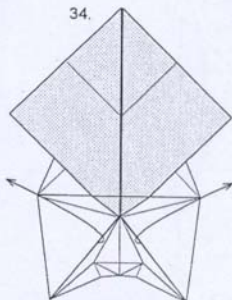
Petal fold.

33.

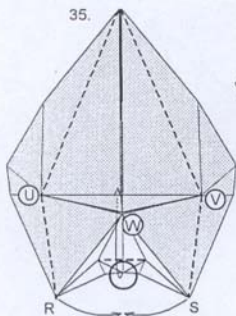


Hold the paper at the circled areas and pull gently down and to the sides, ...

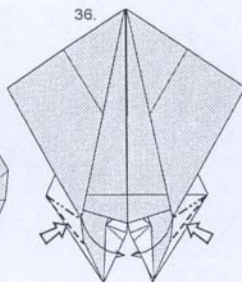
34.



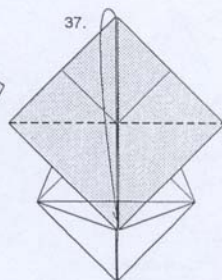
... then lift up one layer from each side to open out temporarily ...



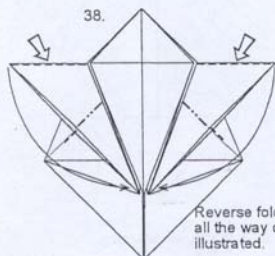
... like this. Draw Points R and S together while tucking the circled tab under the triangle UWW and closing up ...



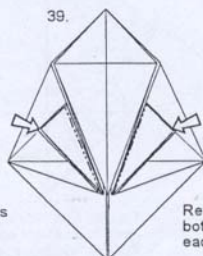
... like this, ...



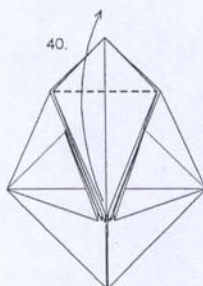
... and this. Now fold the square in the middle diagonally in half, while swivelling the kite-shaped layers at the back to the front.



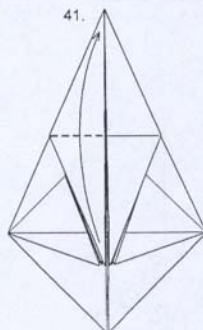
Reverse fold both sides all the way down as illustrated.



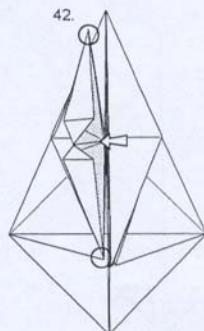
Reverse fold again, on both extensions on each side.



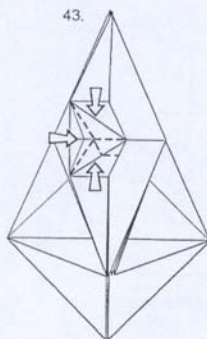
Valley fold one flap up, ...



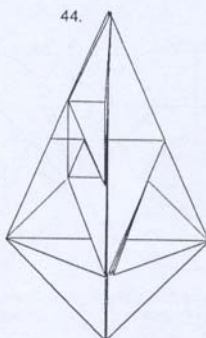
... then lift up one flap on the left ...



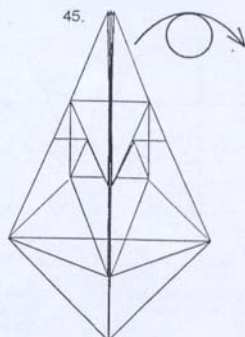
... and stretch this piece by gently pulling the circled points apart while pushing as indicated by the arrow to flatten the middle.



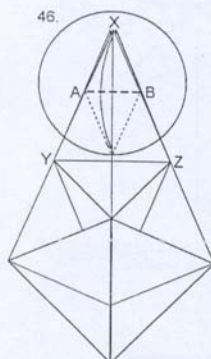
Flatten as shown.



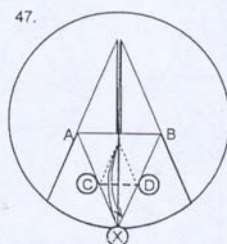
Repeat Steps 41 to 43 on the right.



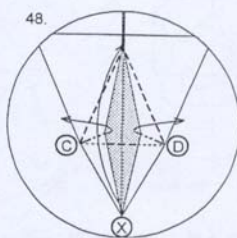
Turn over.



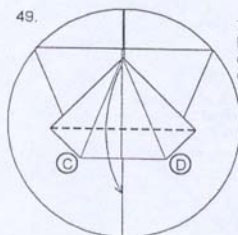
Fold one flap down, bringing the point (X) just short of the horizontal crease line YZ. That done, rotate the model 180 degrees clockwise.



Bring Point X up again, this time leaving it a little below the edge AB as illustrated. Crease firmly and unfold.

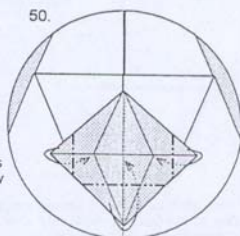


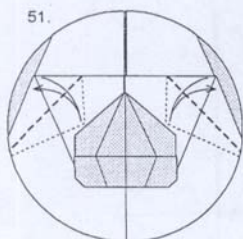
Using the creases made in Step 47, lift out the edges from the centre and open out to each side, while bringing Point X up again.



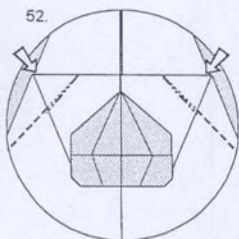
The model should now look like this. Valley fold down, to reveal the coloured side, ...

... then mountain fold the three corners under as illustrated. We are now working on the distinctive red cap of the Tancho Oranda.

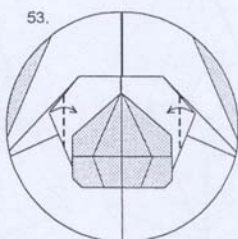




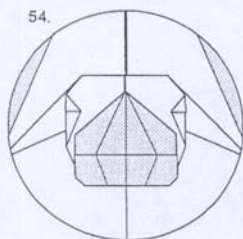
Valley fold both sides,
crease firmly, and
unfold ...



... then reverse fold along
the creases made in
Step 51.

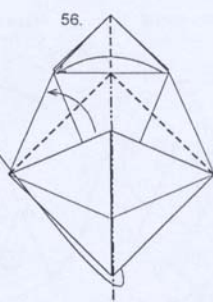
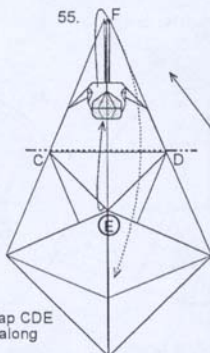


Valley fold both sides
again ...

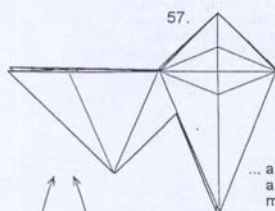


... to form the eyes.

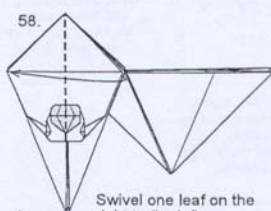
Lift up Corner E of the triangular flap CDE
while swivelling the upper section along
line CD down and to the back ...



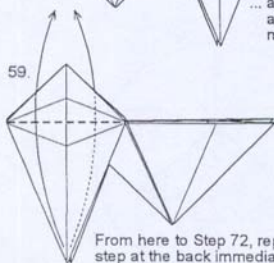
... like this. Collapse along the
existing crease lines as
illustrated ...



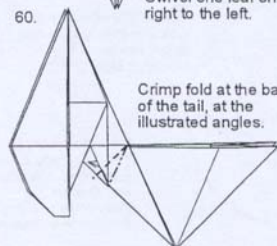
... and position the tail
as shown. Turn the
model over.



Swivel one leaf on the
right to the left.

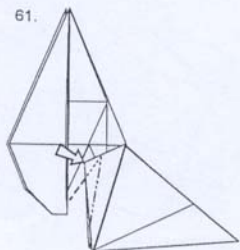


From here to Step 72, repeat each
step at the back immediately after
completing the fold in front.
Valley fold one flap all the way up.



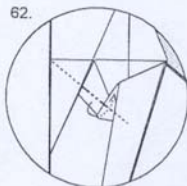
Crimp fold at the base
of the tail, at the
illustrated angles.

61.

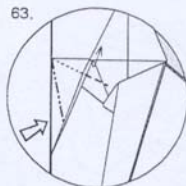


Reverse fold, ...

62.

... then mountain fold
the stub within the
body.

63.

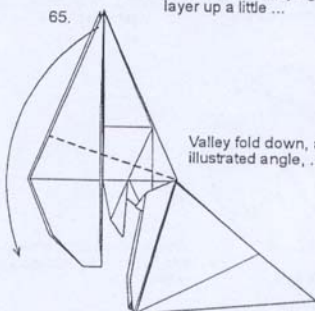
Now reverse fold this
point, offsetting it by
pulling the underlying
layer up a little ...

64.

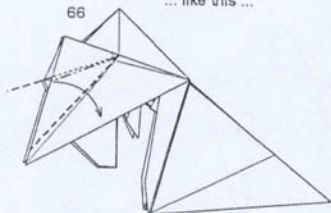


... like this ...

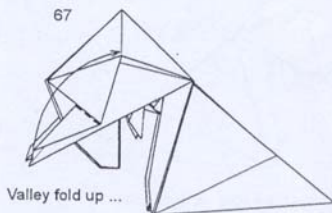
65.

Valley fold down, at
illustrated angle, ...

66

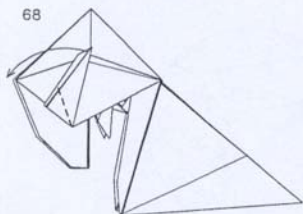
... then do an off-set squash
fold as illustrated.

67



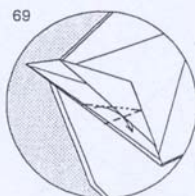
Valley fold up ...

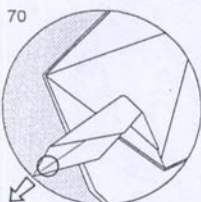
68



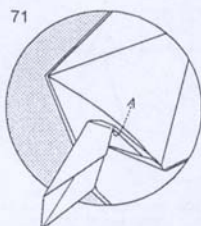
... then down again.

69

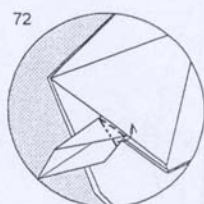
Now crimp fold to bring the fin down
at the illustrated angle ...



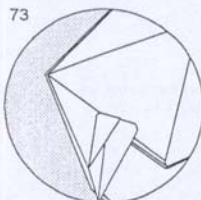
... then hold the circled point and pull this piece gently downwards and to the left ...



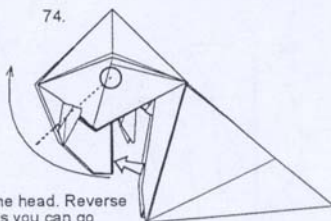
... and tuck its base under the layer directly above ...



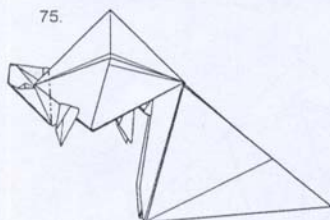
... like this. Crimp fold again as illustrated ...



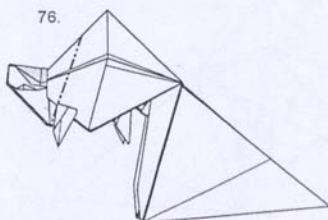
.... like this.



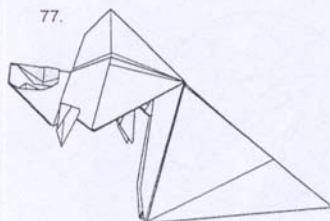
We will now work on the head. Reverse fold from as far back as you can go within the body.



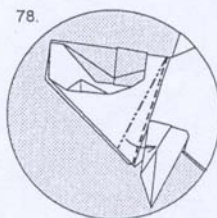
Mountain fold the edges on both sides of the head ...



... and again, as illustrated. Repeat on the other side.

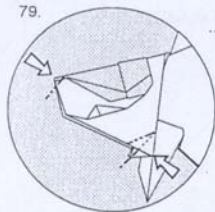


Your model should look like this.



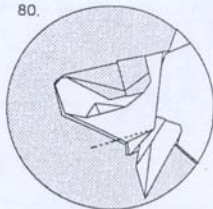
Crimp fold both sides of the head.

79.



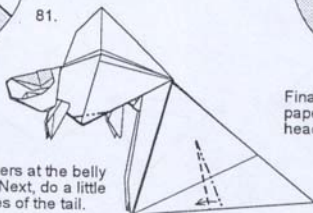
... then reverse fold the tip of the 'nose', and both corners on each side of the head.

80.



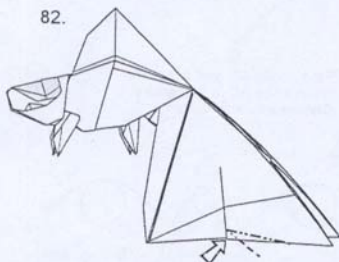
Finally, mountain fold the excess paper on both sides within the head, as far as you can go.

81.



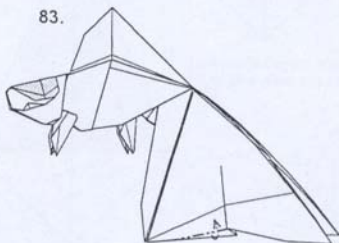
Mountain fold the corners at the belly to complete the body. Next, do a little crimp fold on both sides of the tail.

82.



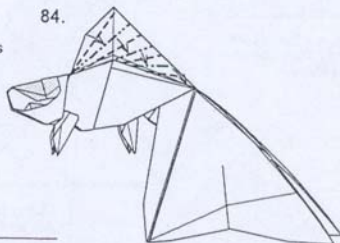
Reverse fold the corner of the overlapping layers, and mountain fold along the edges of the tail as illustrated.

83.

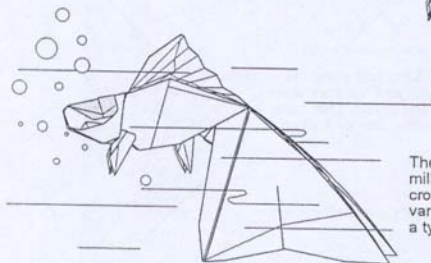


Now mountain fold along the frontal edge of the tail to lock the crimp made in Step 81 in place.

84.

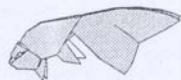


Do a series of mountain and valley folds along the dorsal fins to complete the model.

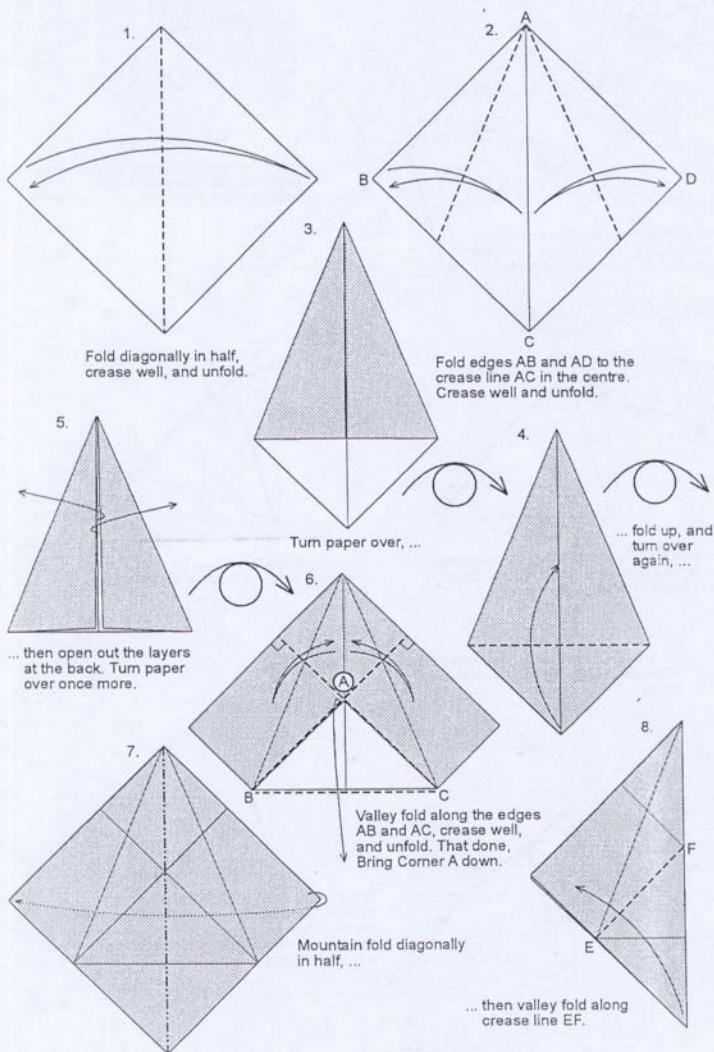


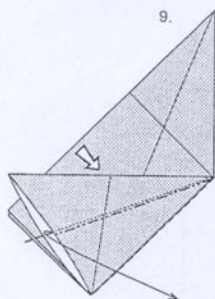
The Tancho Oranda is characteristically milk-white throughout, except for the crown, which is brilliantly red. Some varieties have a thicker body, more like a typical Oranda.

Bubbled Eyed Goldfish

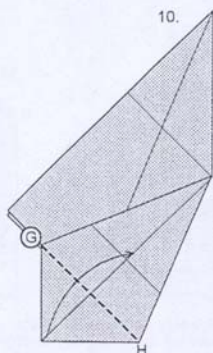


a Bubble Eye Goldfish, as the name implies, has a sac under each eye and does not have a dorsal
A 25cm square produces a 14cm goldfish.

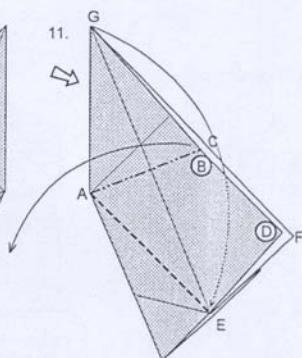




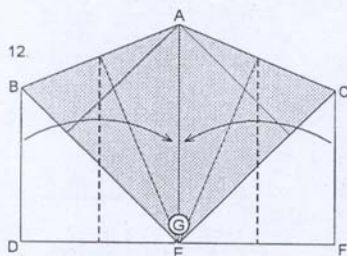
Squash fold, ...



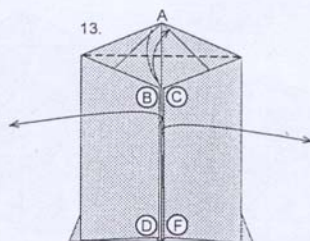
... then valley fold along line GH as shown.



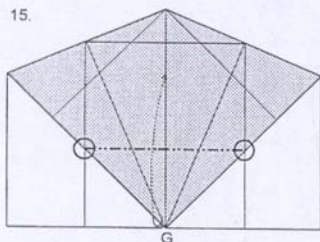
Separate the two edges DG and FG and squash fold, ...



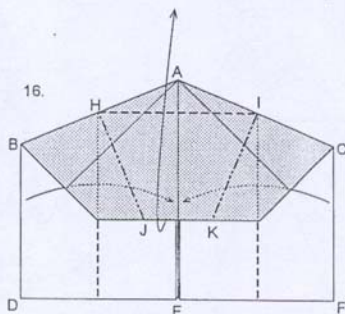
... bringing Corner G all the way down to E. Valley fold edges BD and CF to line AE in the middle.



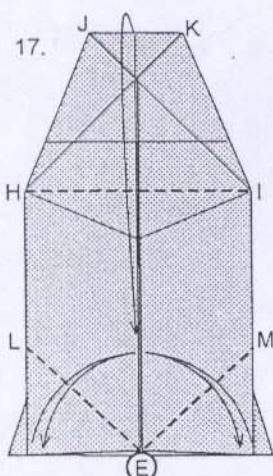
Valley fold Corner A down and unfold as illustrated, creasing firmly. That done, unfold edges BD and CF to the position before Step 12.



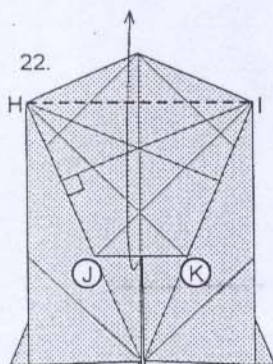
Mountain fold between the circled landmarks to hide Corner G.



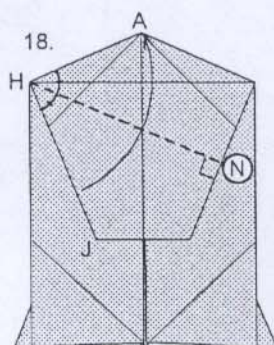
Valley fold edges BD and CF to the centre line AE, while lifting J and K up along line HI, ...



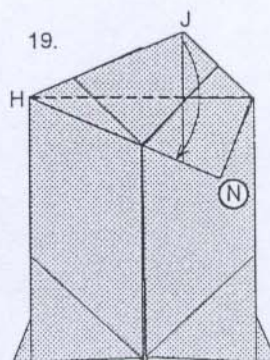
... like this. Fold and unfold along lines LE and LM. Crease firmly. That done, fold edge JK down along line HI.



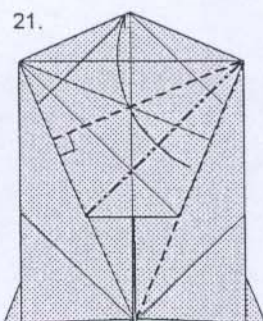
Now fold edge JK up along line HI, ...



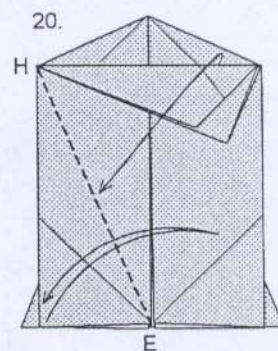
Bring the edge HJ in line with AH and crease firmly.



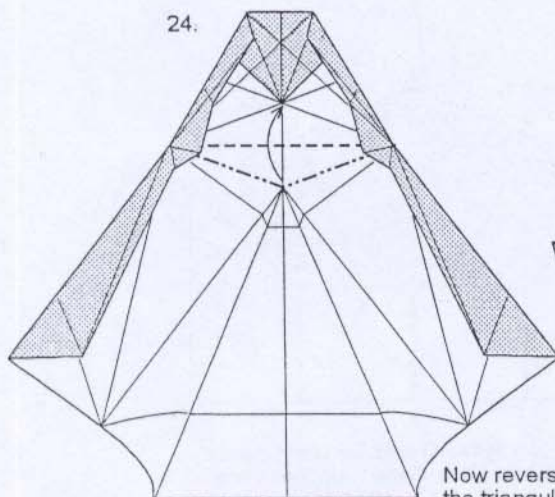
Now bring the edge HJ in line with HN and crease firmly as well.



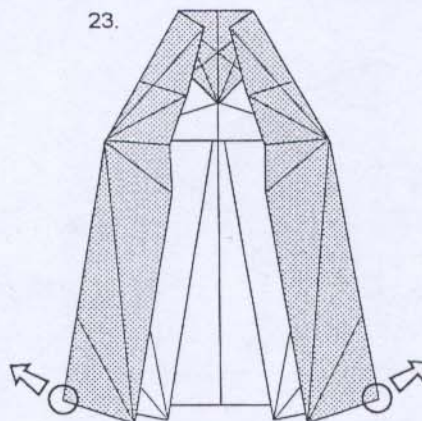
... and repeat Steps 18 to 20 on the right half of the paper.



Valley fold along line JE, crease firmly, and unfold. That done, unfold Steps 18 and 19, ...



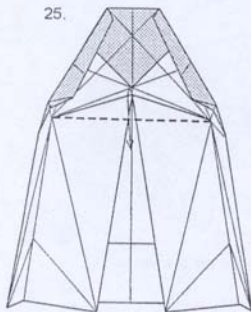
23.



... hold the model at the circled positions and pull to each side to open out temporarily.

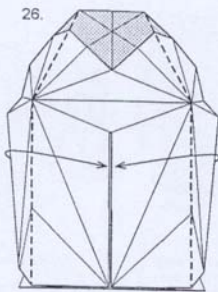
Now reverse the mountain and valley crease lines of the triangular area in the middle by pushing from the back, ...

25.



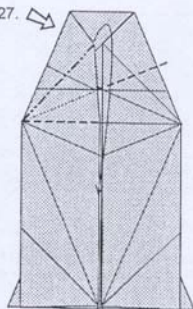
... like this. Fold the resulting triangular tab down, ...

26.



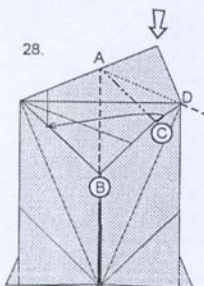
... and return the layers on each side to the original positions before Step 23.

27.



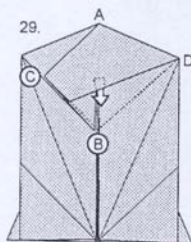
Reverse fold as illustrated, along crease lines made previously.

28.



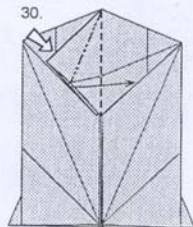
Swivel C along line AB to the left with a valley fold along AD, ...

29.



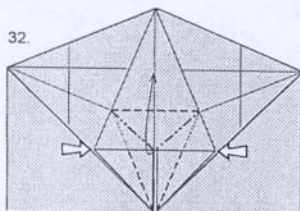
.. then lift out the hidden layer to the position as shown. You may have to unfold Step 28 temporarily to do this.

30.



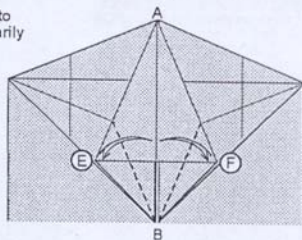
Squash fold, ...

32.



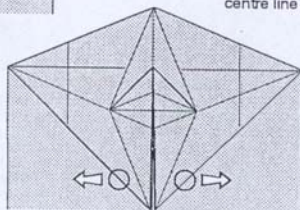
Petal fold, ...

31.

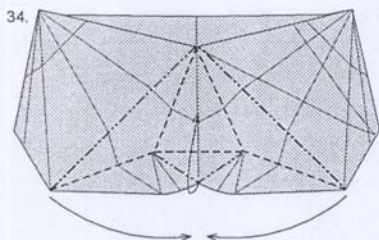


... then valley fold edges BE and BF to centre line AB. Crease firmly and unfold.

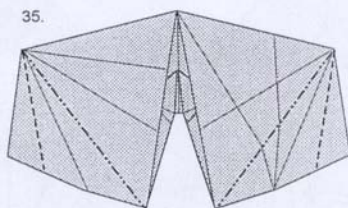
33.



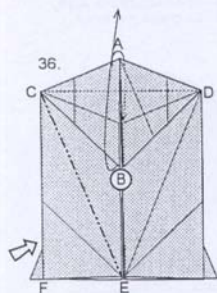
... then hold each side of the top layer at the circled positions and pull gently apart.



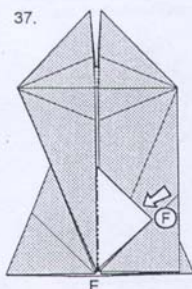
Now change the mountain fold lines to valley folds and vice versa, then gently refold the triangular area underneath as illustrated, ...



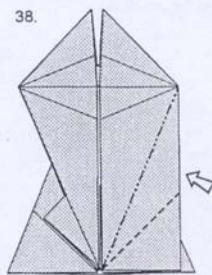
... like this. Complete the sequence.



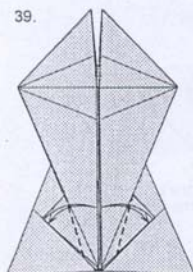
Swivel Corner A behind along CD, bringing the points at B upwards. That done, reverse fold along CE.



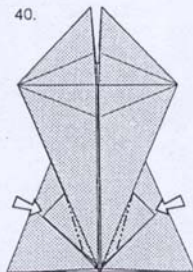
Reverse fold once more ...



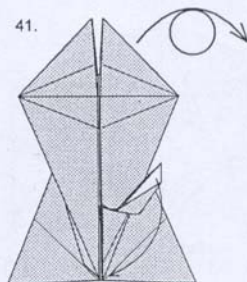
... then repeat the reverse folds in Steps 36 and 37 on the right half of the model.



Fold and unfold at the approximate angles shown, creasing firmly.

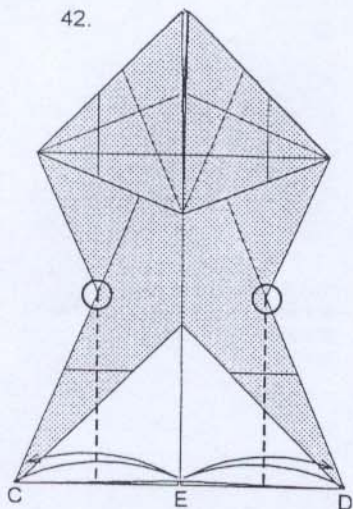


Reverse fold, making use of the crease lines made in Step 39 for the top layer, ...



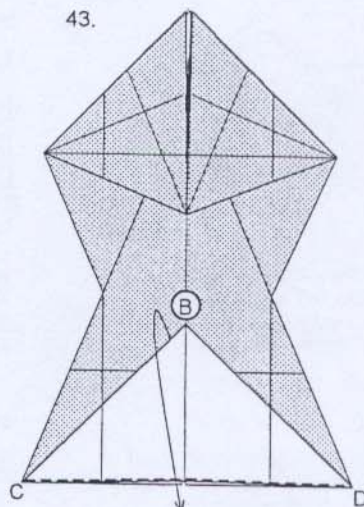
... but with the edge of the second layer going all the way to the vertical edges of the underlying layers in the middle. The flap on the right has been lifted to show what the other side should look like. Turn model over.

42.



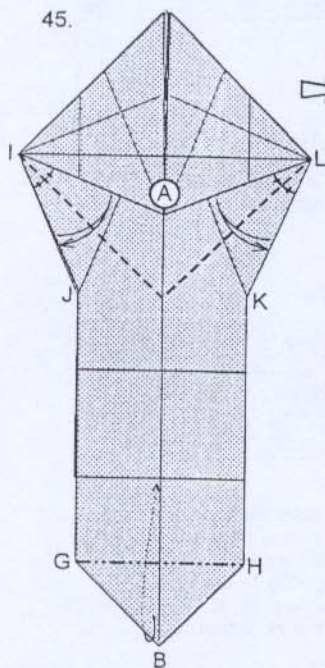
Fold Corners C and D to E. Crease firmly and unfold.

43.



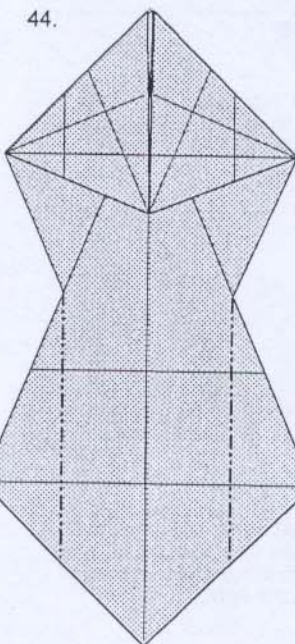
Fold Corner B of the triangle BCD down

45.



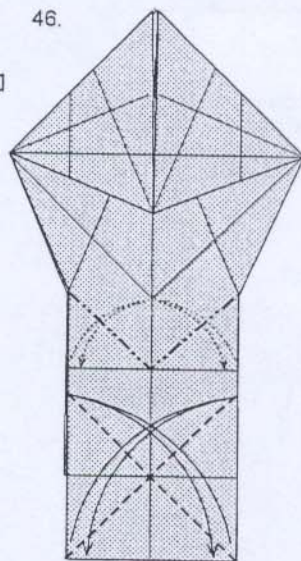
Mountain fold the triangle GBH under. That done, fold the edge IJ to edge IA, crease firmly, and unfold. Repeat the last step with edges LA and LK on the right.

44.



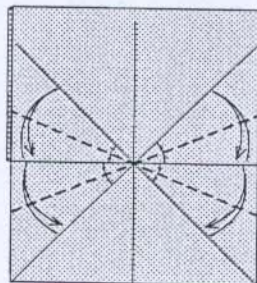
Reverse fold along the crease lines made in Step 42.

46.



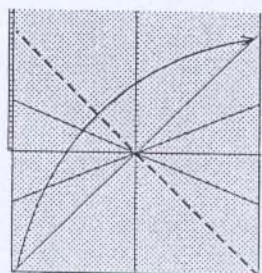
Fold and unfold four times as illustrated, creasing firmly.

47.



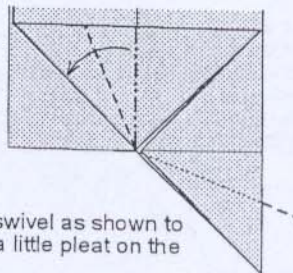
This is a view of the bottom section of the paper. Fold and unfold again, creasing firmly as usual.

48.



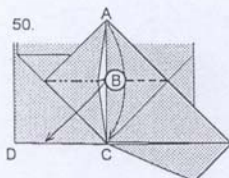
Valley fold diagonally along the existing crease line, ...

49.



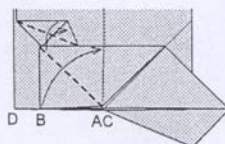
... then swivel as shown to form a little pleat on the left.

50.



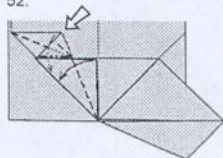
Draw out the first layer on the left and fold edge BC to edge DC, bringing Corner A down to C, ...

51.



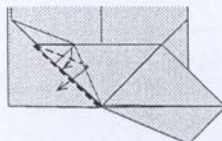
... like this. Valley fold twice as illustrated, creasing firmly. Unfold the upper valley fold.

52.



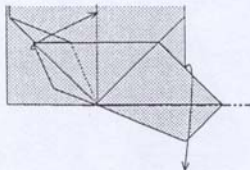
Valley fold at the lower section, and reverse fold the little tab immediately above.

53.



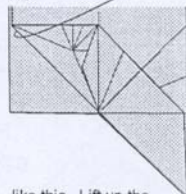
First do the upper valley fold to narrow this tab, then Swivel down the entire tab as illustrated.

54.



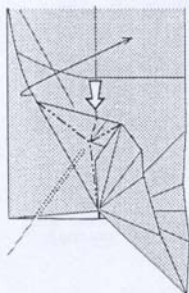
That done, open out the upper layers on the left while swivelling down one layer on the right...

55.



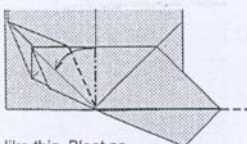
... like this. Lift up the whole of the first layer on the left temporarily, ...

56.



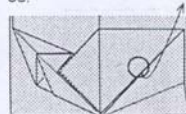
... as far as you can go. That done, insert a toothpick or a pair of tweezers between the folds at the bottom and push up to turn the valley folds on the top layer to mountain folds, then flatten out ..

57.



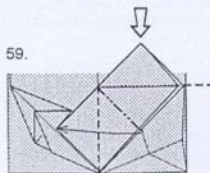
... like this. Pleat as illustrated, swivelling the flap on the right in an anti-clockwise direction.

58.



Hold the top layer in the circled position, along the diagonal edge, and pull gently to the right and upwards, to free the loose paper underneath, ...

59.



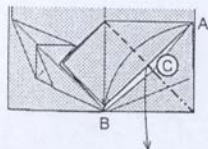
... like this. Collapse as illustrated.

60.



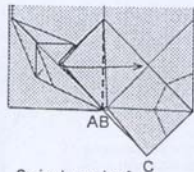
Fold and unfold, creasing firmly.

61.



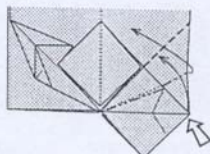
Separate the two layers along AB and mountain fold C down, while valley folding Corner A to B.

62.



Swivel one leaf to the right, ...

63.



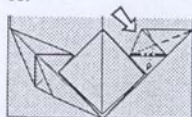
... collapse as shown, along existing crease lines, ...

64.



... like this. Fold and unfold the upper tab, then reverse fold the lower one.

65.



Reverse fold, then repeat Steps 53 to 57 on the right side of this section.

66.



Swivel one leaf along the vertical axis from the left to the right, then reverse fold as illustrated on the left.

67.



Valley fold, ...

68.



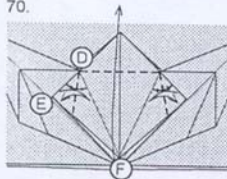
... and repeat Steps 66 and 67 on the right side.

69.



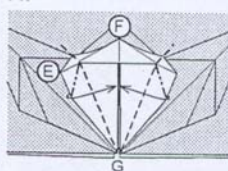
Fold and unfold, creasing firmly.

70.



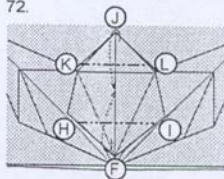
Fold edge DE to line DF, crease well, and unfold. Repeat on the right. That done, lift Corner F temporarily, ...

71.



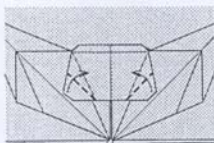
... and petal fold: all the way towards the vertical edges FG for the lower layer, but along the crease lines made in Step 70 for the upper layer (where Corner F is).

72.



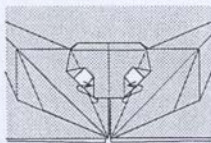
This part of the model should now look like this. Mountain fold along lines HI and KL to hide the Corners F and J respectively.

73.



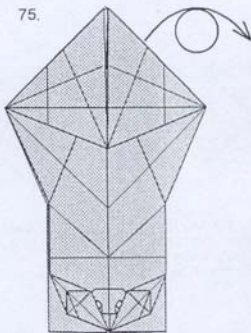
Fold the corners up
as illustrated, ...

74.



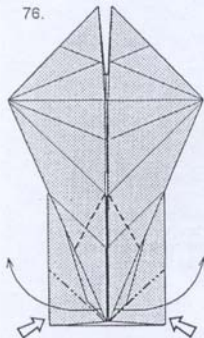
... and you have a pair of eyes.
Lift the layers on each side
over the layer where the
eyes are.

75.



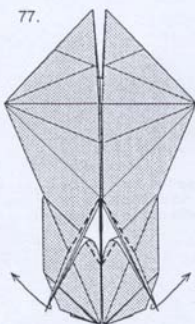
Turn model over.

76.



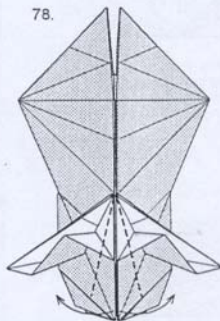
First, reverse fold each of the
corners at the bottom. Next,
valley fold the two central flaps
to the sides, ...

77.



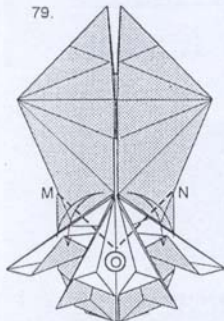
... drawing out the layers
undereath as you
move along, ...

78.



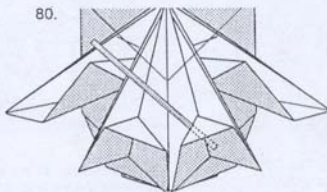
... finally flattening out like this.
Valley fold and do the same
for the next two flaps on each
side.

79.



Using the existing valley fold lines,
fold and unfold along lines MO
and NO. Creasing firmly.

80.



Insert a matchstick, etc under the
second layer and gently push out, ...

80a.



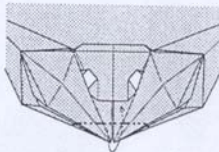
... until the left sac looks like this from the side, ...

80b.



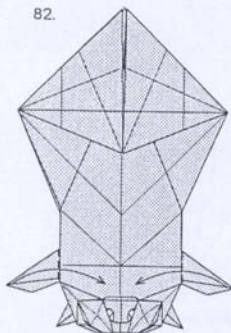
... and like this from the back. Repeat Step 80 on the other side.

81.



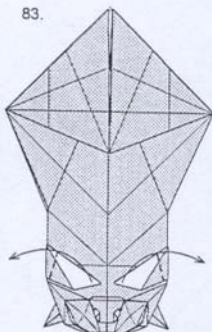
Gently fold this corner of the mouth under, without deflating the sacs.

82.



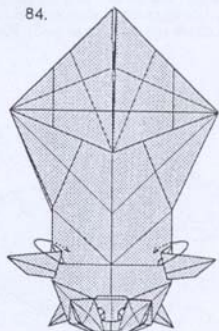
Valley fold each of the larger fin pieces to the middle, ...

83.



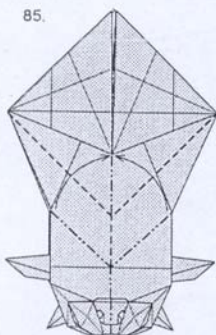
... and outwards to the sides again, at the approximate angles and positions shown.

84.



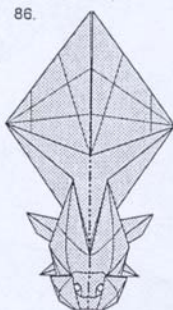
Tuck the base of the fins between the two layers on each side.

85.



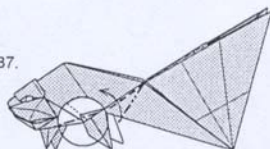
Now collapse as illustrated along existing crease lines as you fold the model in half, ...

86.



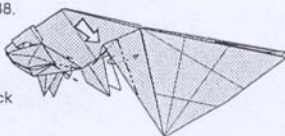
... progressively, like this ...

87.

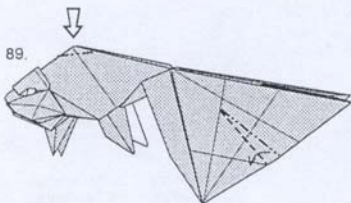


Mountain fold the hidden second layer together with the layers at the base of the fin as shown in the x-ray view, to lock the fin in place. Repeat behind, then crimp fold both sides at the base of the tail as illustrated.

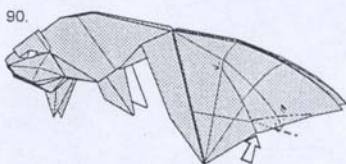
88.



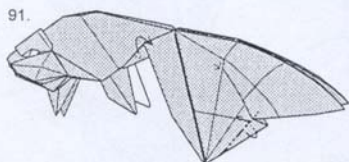
Reverse fold at the base of the tail, and narrow the back of the sac at the eyes as illustrated. Repeat behind.



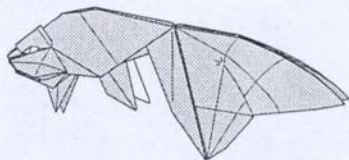
Sink fold the back, then crimp fold the tail as illustrated. The area where the mountain and valley fold lines meet should be convex. (A pair of tweezers will be a great help). Repeat behind.



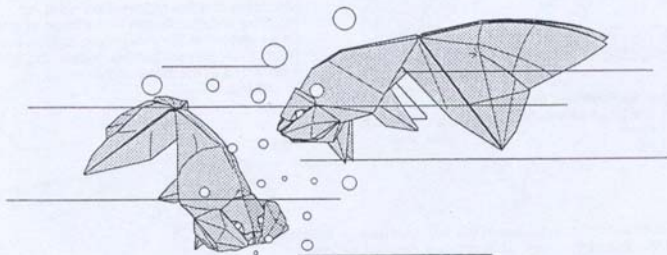
Reverse fold as shown ...



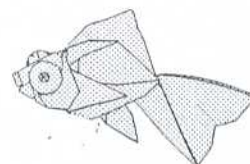
Mountain fold at the tail to lock the edge in place as shown, then lift one layer of the body over the crimped layers at the body and tail joint. Repeat behind, and ...



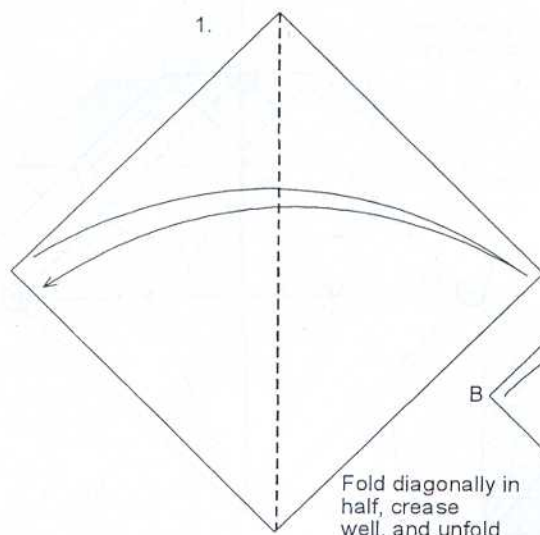
... and you're all done!



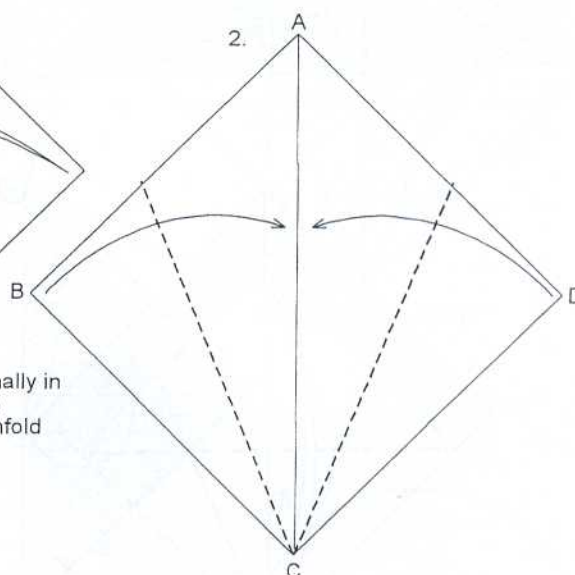
Blackmoor Goldfish



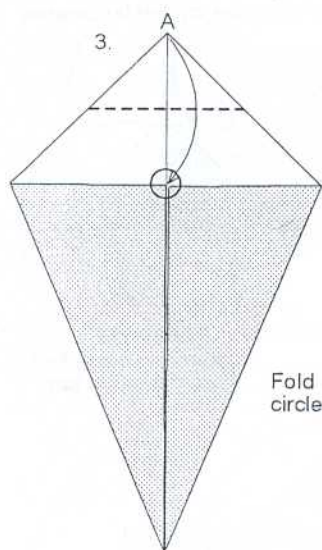
The Blackmoor is best wet-folded or folded with tissue foil, though it can be folded satisfactorily with standard origami paper. A 25cm sheet produces an 11cm Blackmoor. Use a black sheet of paper.



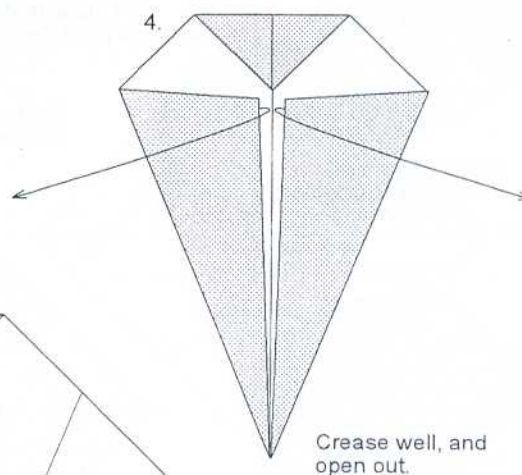
Fold diagonally in half, crease well, and unfold



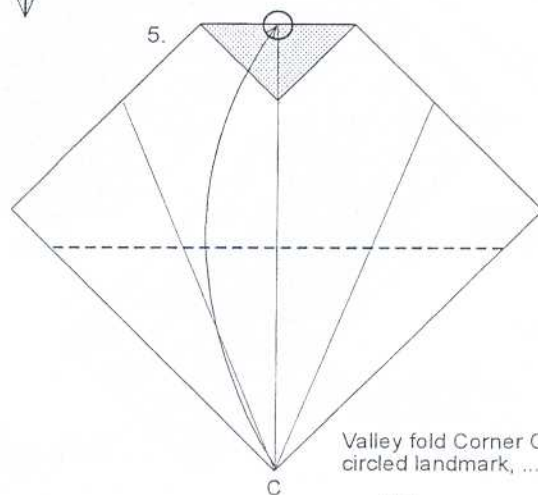
Valley fold the diagonal edges BC and CD to the crease line AC in the middle.



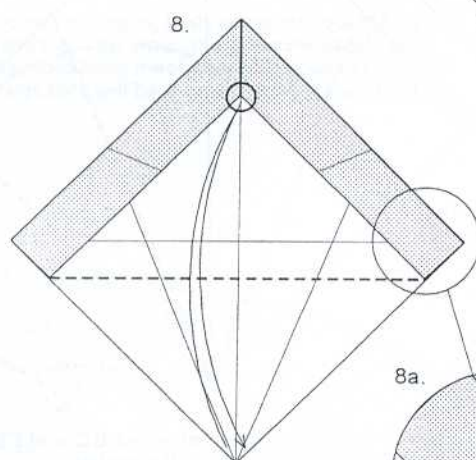
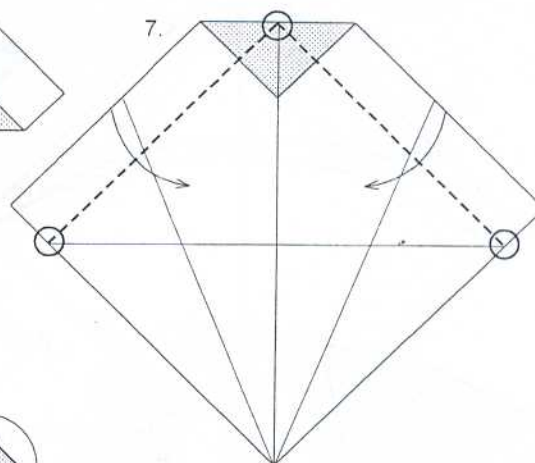
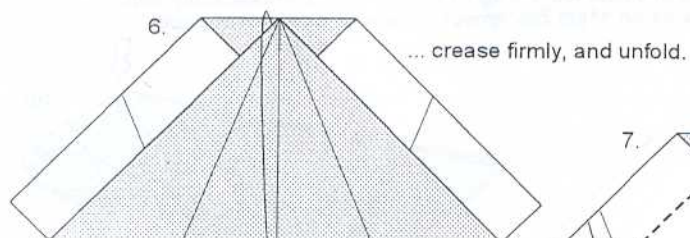
Fold Corner A to the circled landmark, ...



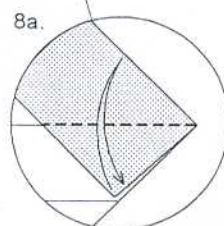
Crease well, and open out.



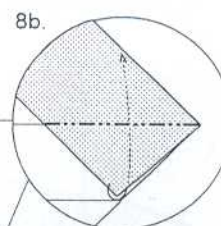
Valley fold Corner C to the circled landmark, ...



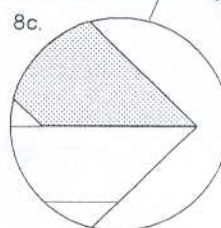
Valley fold between the circled landmarks.



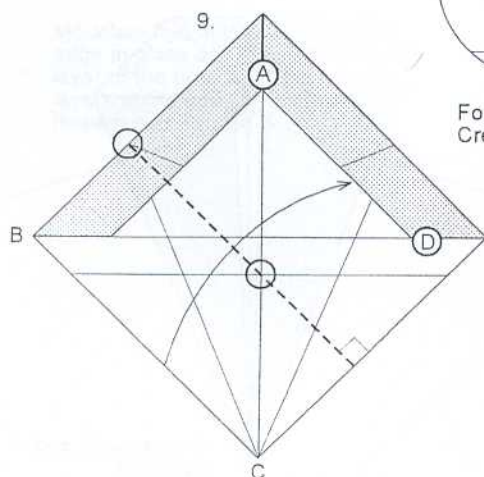
Fold and unfold.
Crease firmly, ...



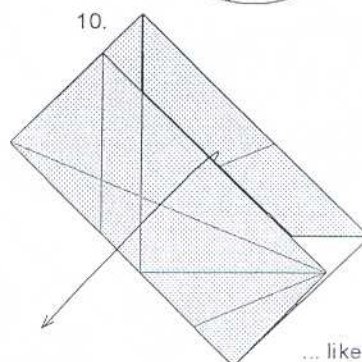
... then mountain fold
the triangular tab
under, ...



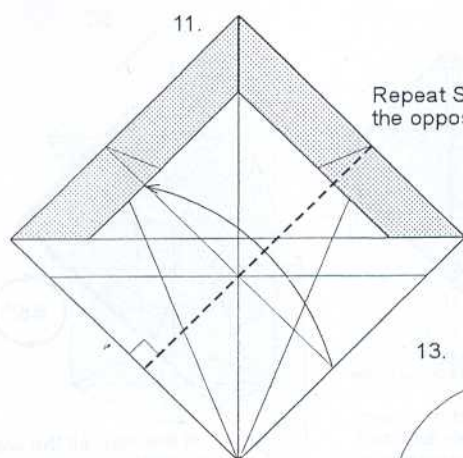
... like this. Repeat
Steps 8a to 8c on
the left.



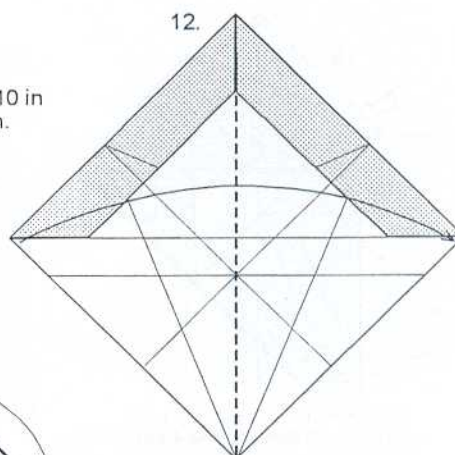
Valley fold through the circled
landmarks, such that edge BC
meets edge AD exactly, ...



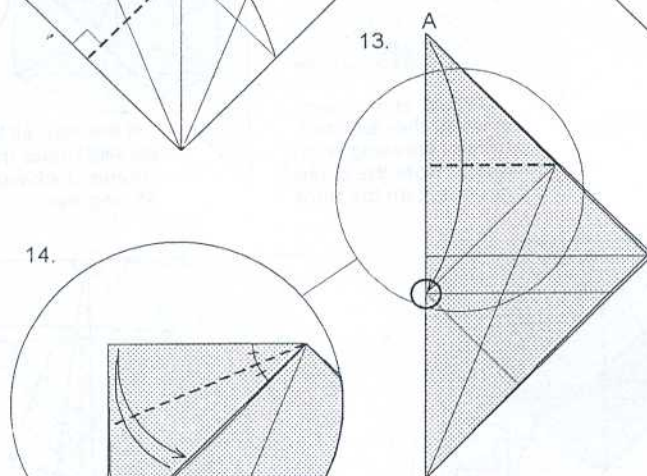
... like this. Unfold, ...



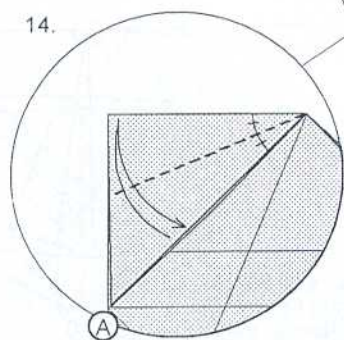
Repeat Steps 9 and 10 in the opposite direction.



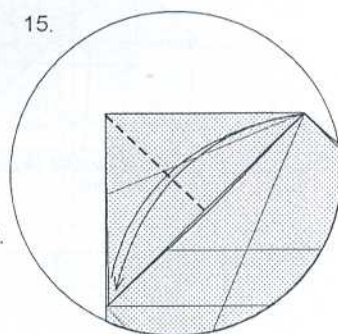
Fold diagonally in half.



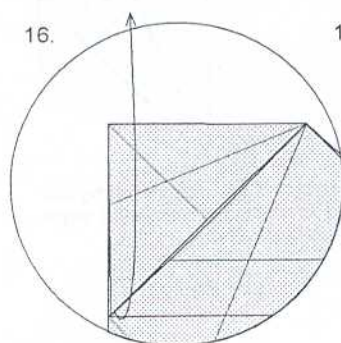
Ensure that the top and bottom layers are accurately aligned. Fold Point A to the circled landmark.



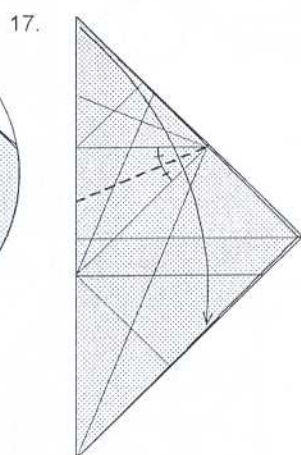
Fold and unfold as illustrated. Crease firmly.



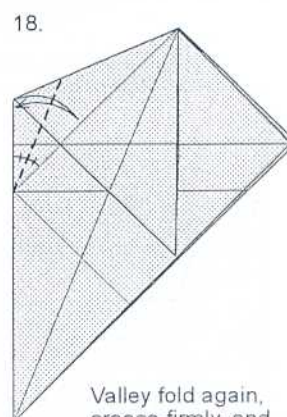
Fold and unfold again, creasing firmly as before.



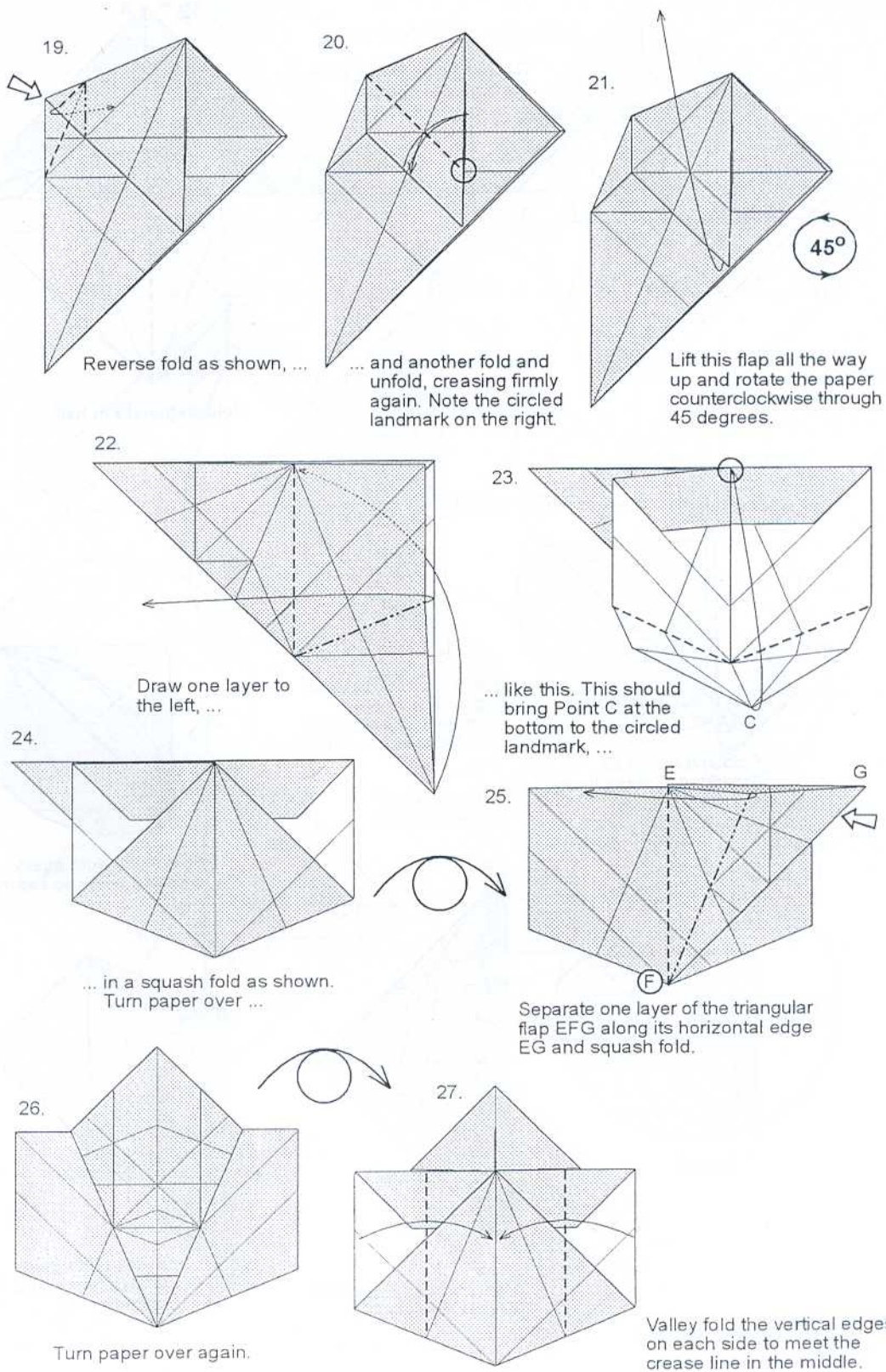
Unfold.



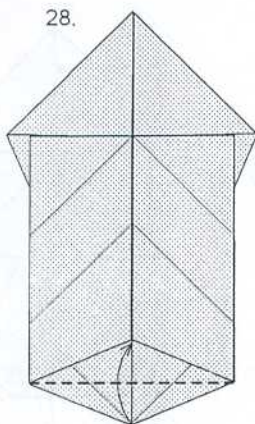
Valley fold as illustrated. Crease firmly again.



Valley fold again, crease firmly, and unfold.

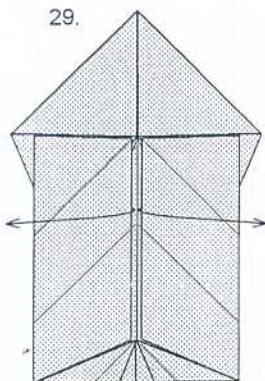


28.



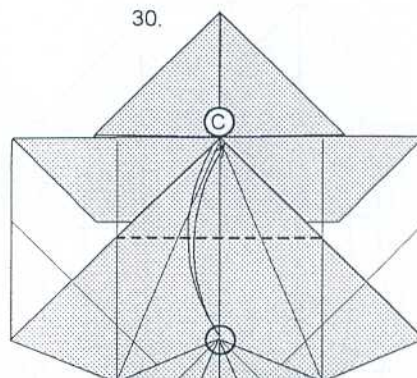
Fold up, ...

29.



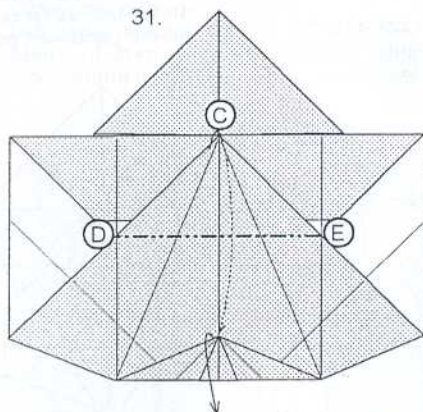
... then unfold Step 27.

30.



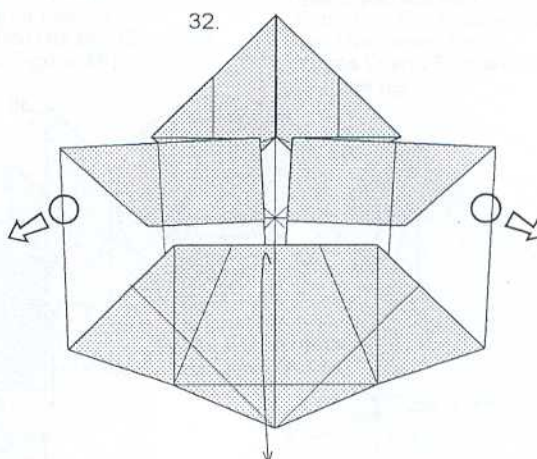
Fold Corner C to the circle landmark, crease firmly, and unfold.

31.



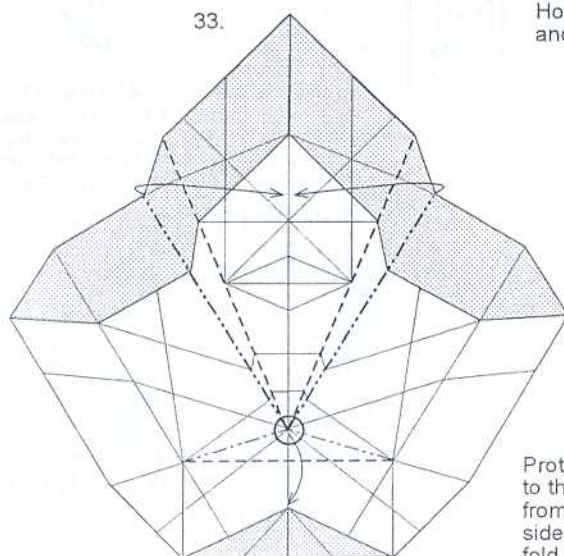
Mountain fold to hide triangle CDE.

32.

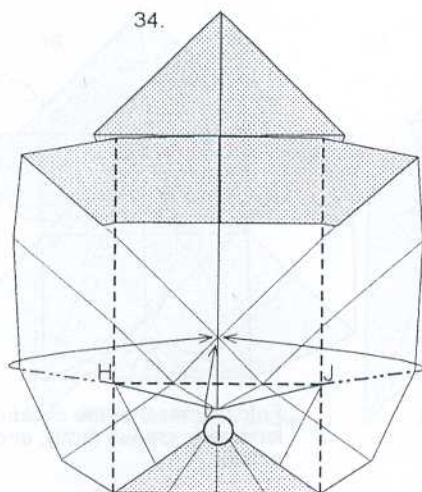


Hold the paper at the circled positions and pull to the sides to open out.

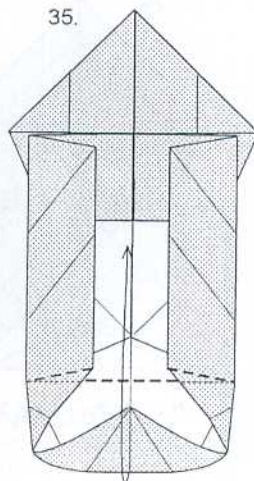
33.



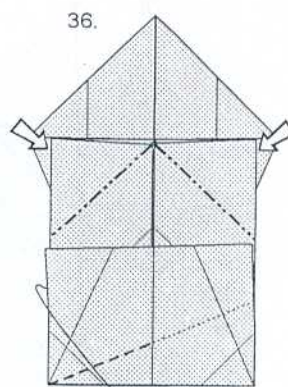
Protrude the circled area of the paper to the front, by pushing towards you from the back. That done, collapse the sides together again along the existing fold lines, ...



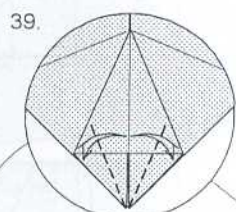
First, fold the triangle HIJ up, then valley fold the two sides to the centre, ...



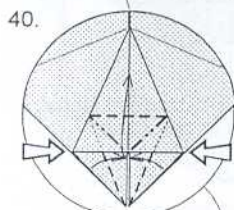
... as you bring up the rectangular section at the bottom, ...



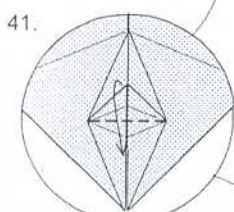
... like this. Reverse fold the corners on each side, then valley fold on the left, as far down as the paper will go.



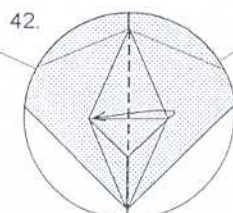
Fold the lower diagonal edges to the centre, crease firmly, and unfold.



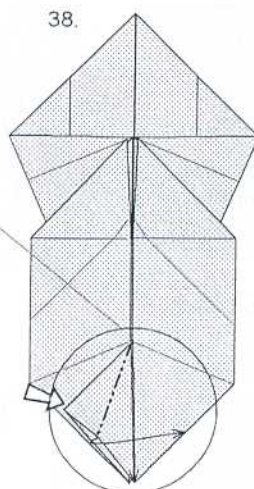
Petal fold.



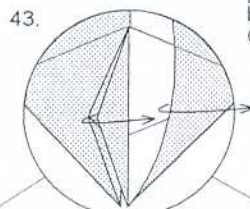
Fold the little tab down, ...



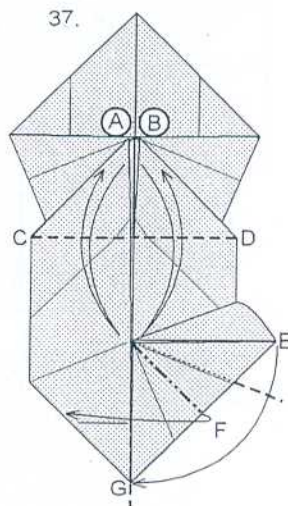
Swivel the flap on the right to the left, ...



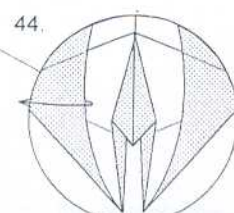
... like this. Squash fold.



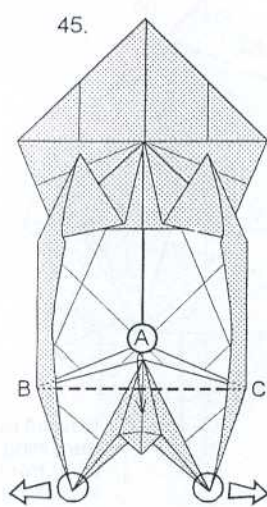
... and lift to free the first layer on the right, then swivel the two flaps in the middle a little more than 90° to the right.



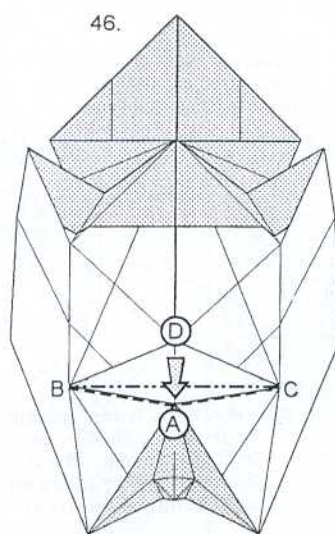
Fold Points A and B down along line CD, crease firmly, and unfold. Next, draw midpoint F to the left, while bringing Corner E to Corner G, ...



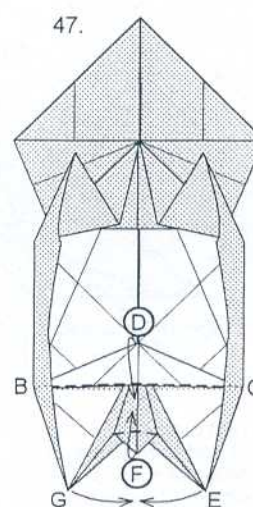
Now free the first layer on the left, ...



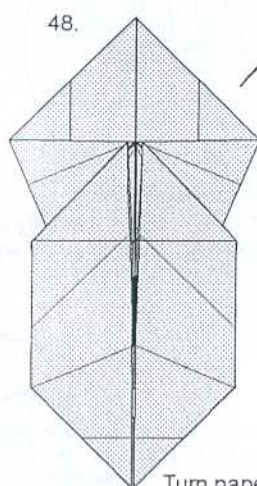
Grasp the circled points and pull gently to each side to open out, then swivel Point A down along line BC, ...



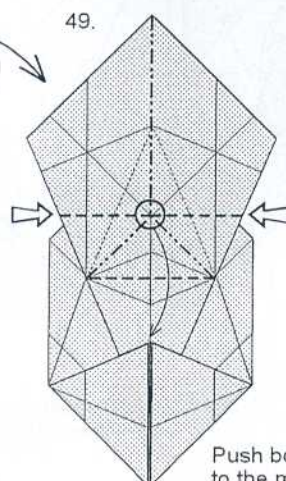
... like this. Push Point A under and upwards behind the mountain fold line BC. (See final position in Figure 49).



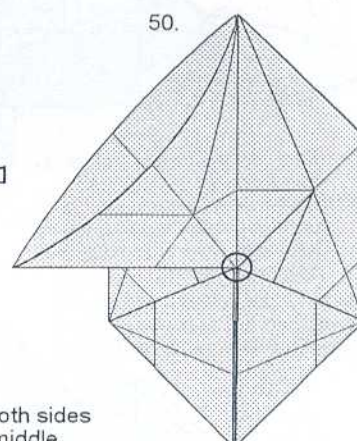
Swivel Point D of the next triangular tab down, and Point F of the smaller tab up. That done, bring Points G and E together to close up.



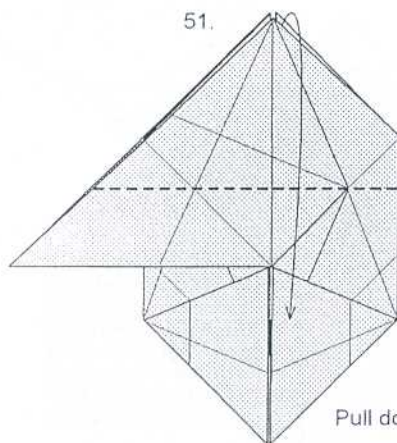
Turn paper over.



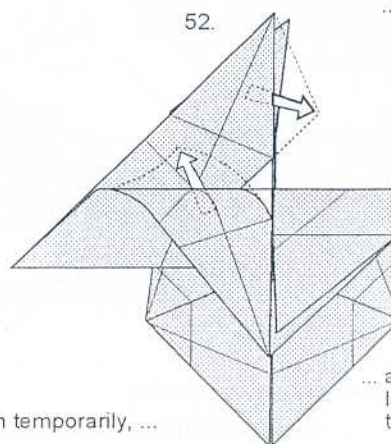
Push both sides to the middle ...



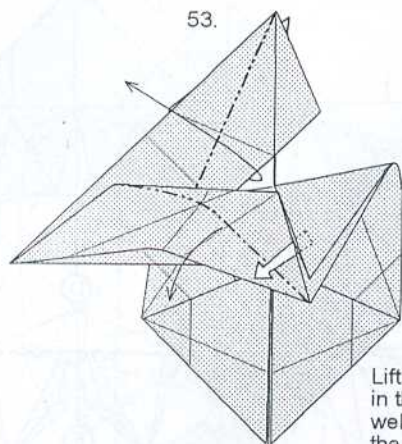
... to collapse as illustrated.



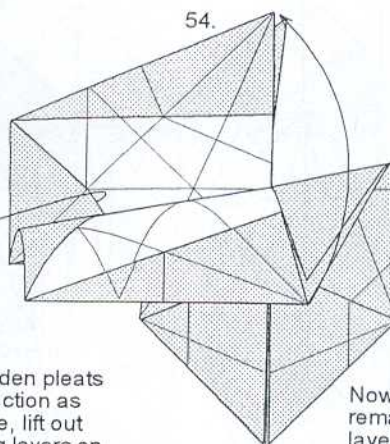
Pull down temporarily, ...



... and lift out the pleated layers from between the folds as shown.



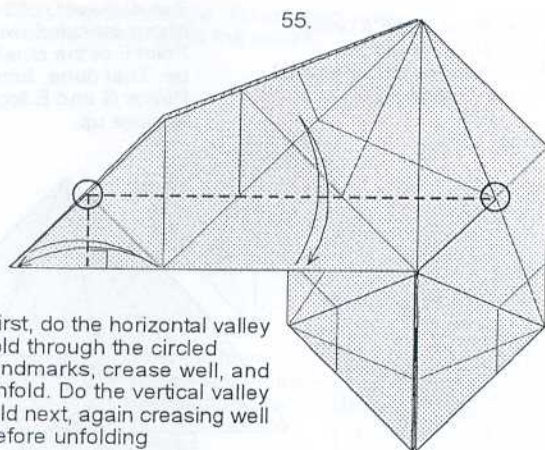
53.



54.

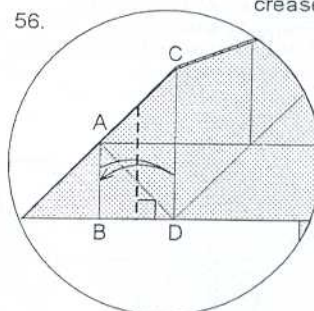
Lift out the hidden pleats in the lower section as well. That done, lift out the overlapping layers on both surfaces as shown.

Now lift out the remaining triangular layer from within and flatten paper along existing crease lines.



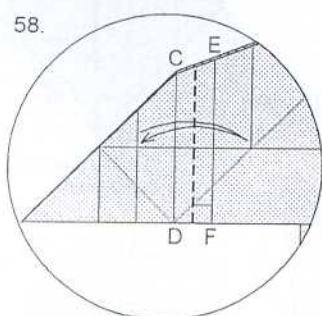
55.

First, do the horizontal valley fold through the circled landmarks, crease well, and unfold. Do the vertical valley fold next, again creasing well before unfolding



56.

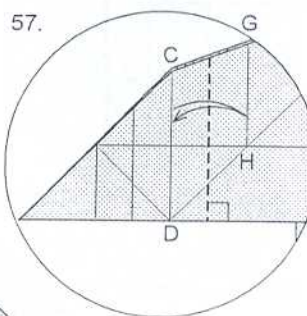
Valley fold to place line AB directly on line CD, crease firmly, and unfold again.



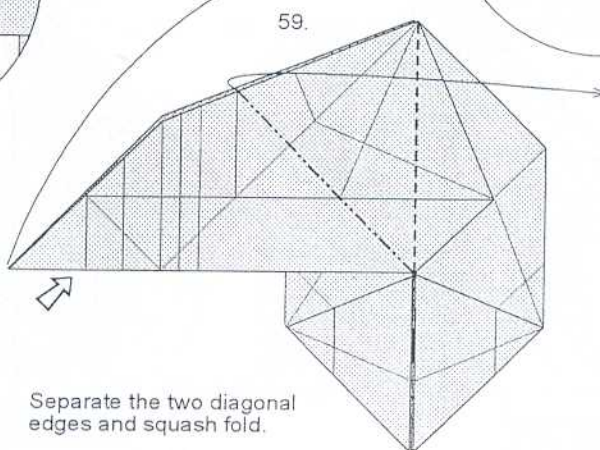
58.

... and again with lines CD and EF.

Repeat Step 56 with lines CD and GH, ...

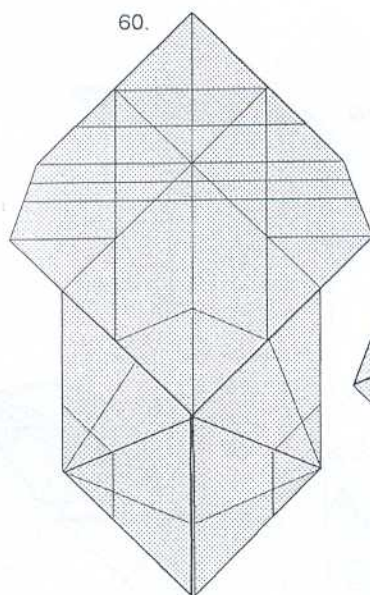


57.

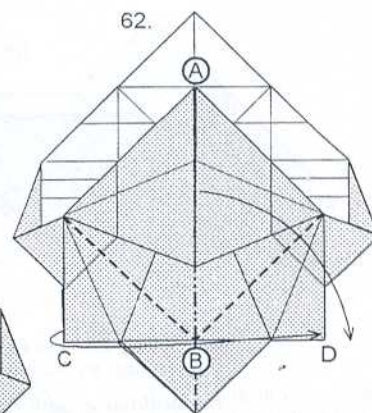
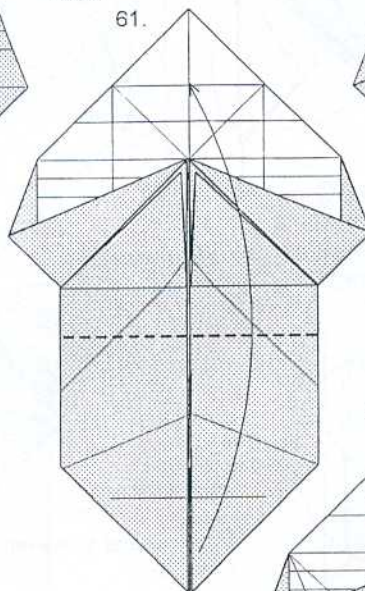


59.

Separate the two diagonal edges and squash fold.

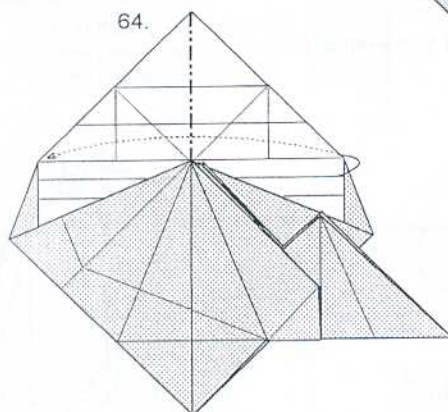


Valley fold up, swivelling along the base of the triangular protrusion at the back.

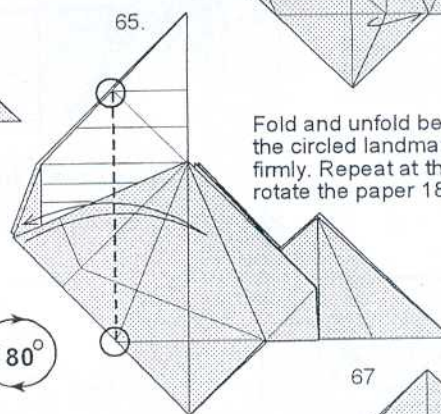
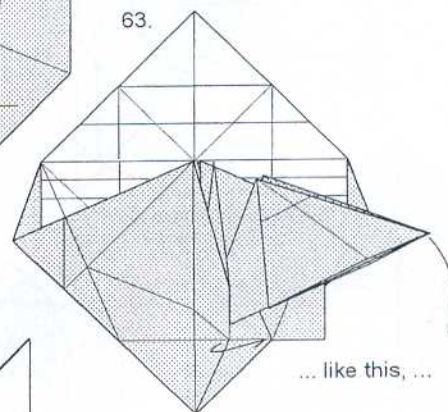


Draw the mountain fold line AB to the right of horizontal edge CD, while swivelling one leaf on the left to the right, ...

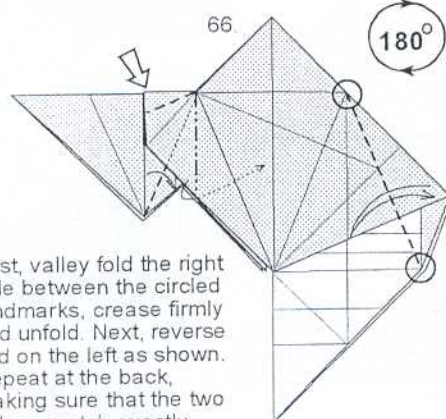
Turn paper over.



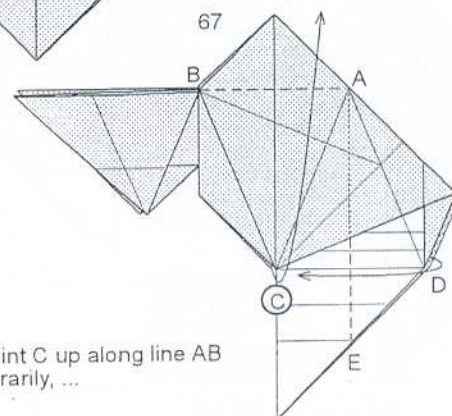
... and this. Fold the broad layer at the back in half with a mountain fold as illustrated.



Fold and unfold between the circled landmarks. Crease firmly. Repeat at the back and rotate the paper 180 degrees.

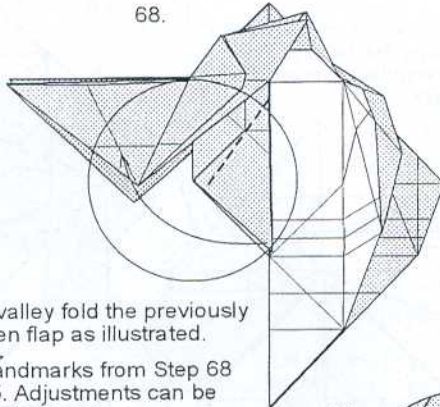


First, valley fold the right side between the circled landmarks, crease firmly and unfold. Next, reverse fold on the left as shown. Repeat at the back, making sure that the two halves match exactly.



Lift Point C up along line AB temporarily, ...

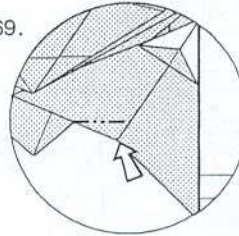
68.



... and valley fold the previously hidden flap as illustrated.

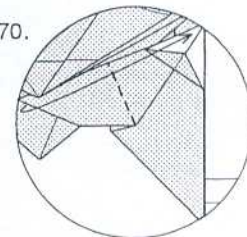
No landmarks from Step 68 to 75. Adjustments can be made later.

69.



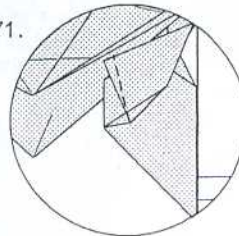
Reverse fold, ...

70.



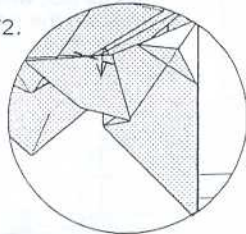
... then valley fold to the right, ...

71.



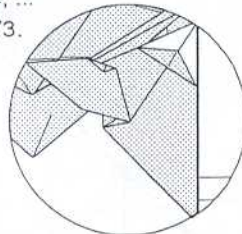
... and to the left again.

72.



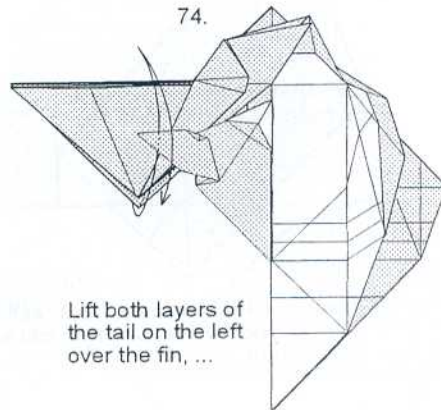
Fold the corner down to lock this piece in place, ...

73.



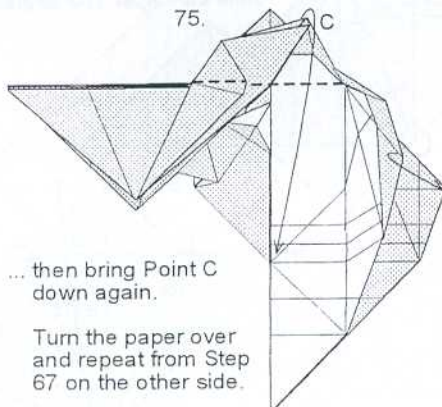
... like this, to form a fin.

74.



Lift both layers of the tail on the left over the fin, ...

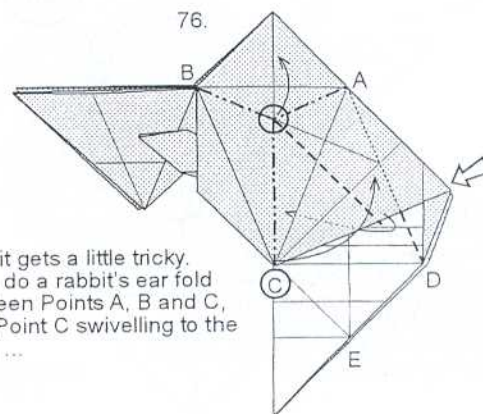
75.



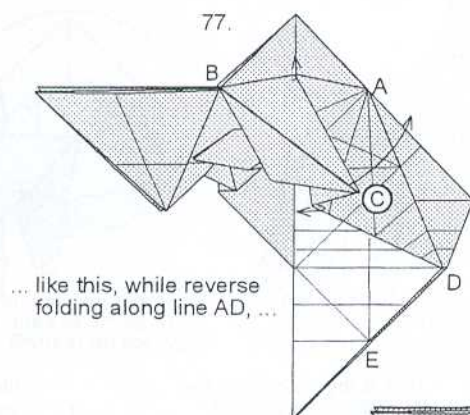
... then bring Point C down again.

Turn the paper over and repeat from Step 67 on the other side.

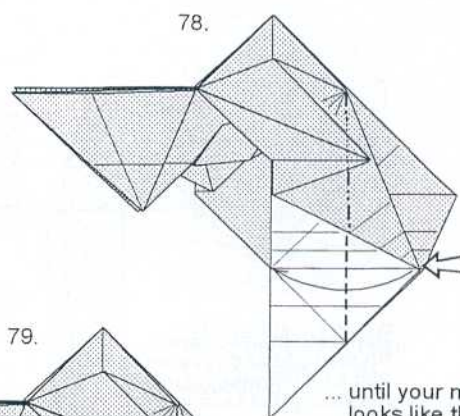
76.



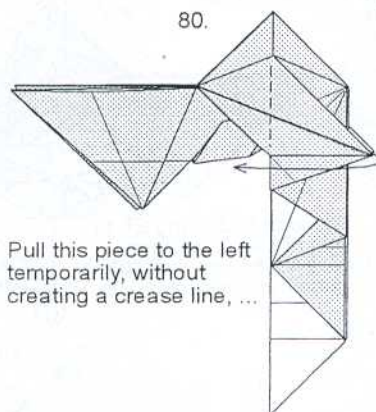
Now it gets a little tricky. First, do a rabbit's ear fold between Points A, B and C, with Point C swivelling to the right, ...



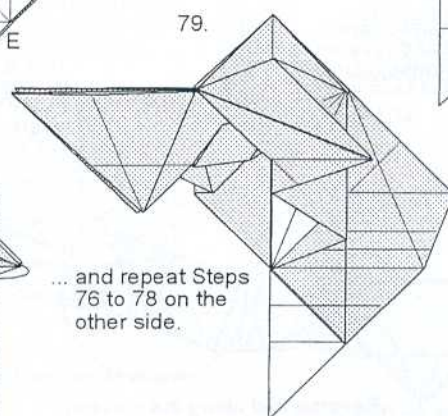
... like this, while reverse folding along line AD, ...



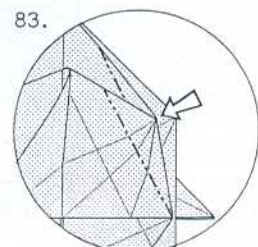
... until your model looks like this. Reverse fold, ...



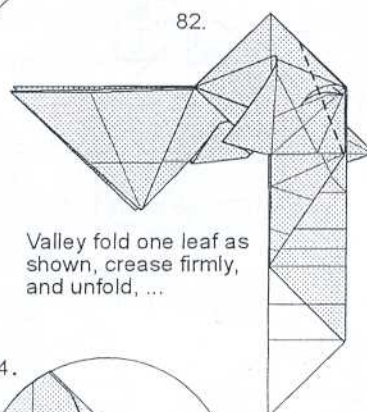
Pull this piece to the left temporarily, without creating a crease line, ...



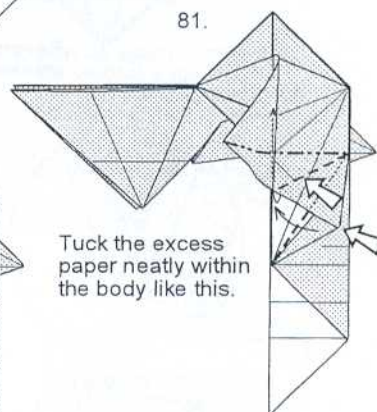
... and repeat Steps 76 to 78 on the other side.



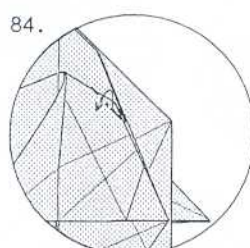
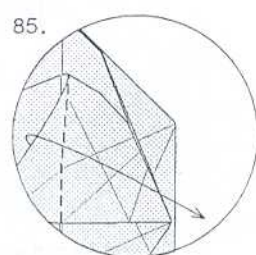
... then do an open sink fold as shown.



Valley fold one leaf as shown, crease firmly, and unfold, ...

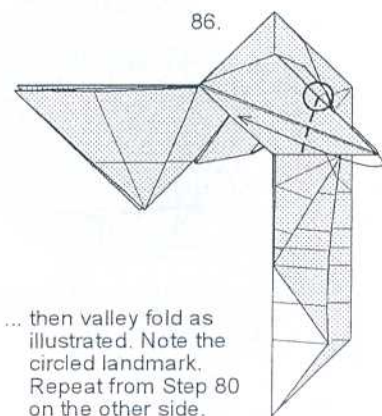


Tuck the excess paper neatly within the body like this.

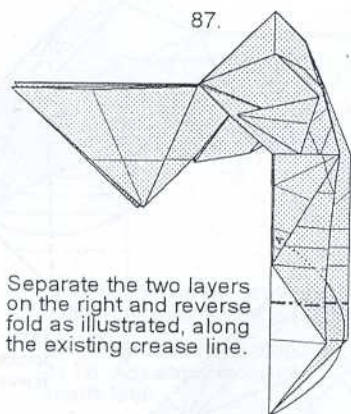


Mountain fold.

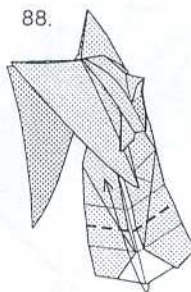
Now swivel the flap in the middle to the right, ...



... then valley fold as illustrated. Note the circled landmark. Repeat from Step 80 on the other side.



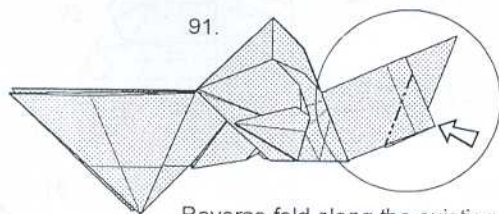
87.
Separate the two layers on the right and reverse fold as illustrated, along the existing crease line.



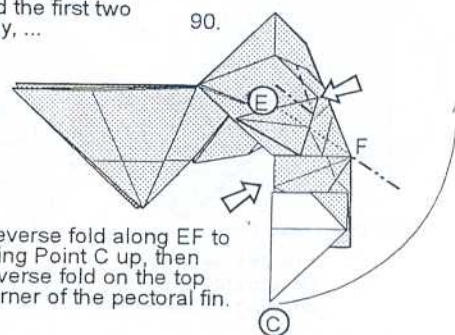
88.
This is the view from the tail end of the goldfish. Valley fold the first two layers only, ...



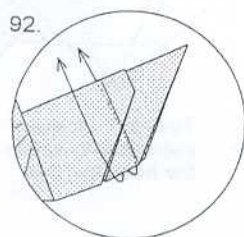
89.
... like this.



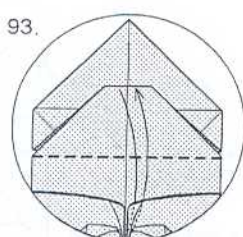
91.
Reverse fold along the existing crease line. Repeat behind.



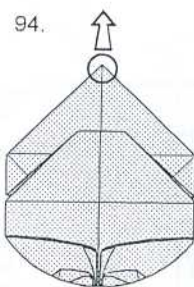
90.
Reverse fold along EF to bring Point C up, then reverse fold on the top corner of the pectoral fin.



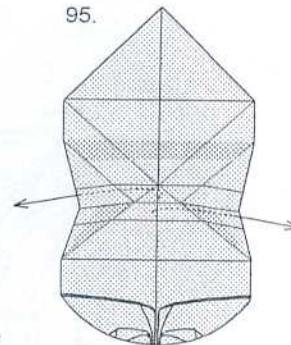
92.
Separate the two halves and flatten out, ...



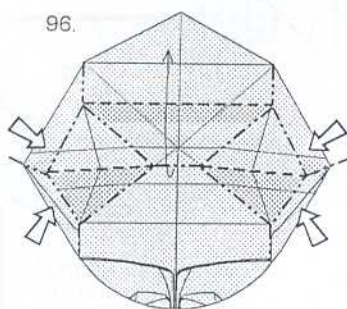
93.
... like this. Valley fold, crease firmly, and unfold.



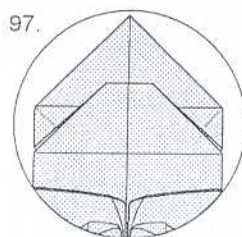
94.
Now hold the circled corner and pull gently upwards to open out the layers, ...



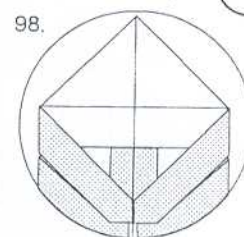
95.
... lift out the layers from below, ...



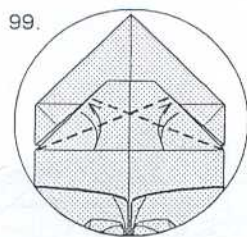
96.
... and refold as illustrated along the existing crease lines.



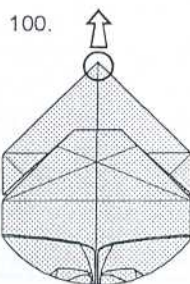
97.
This is how your model should now appear from the top, ...



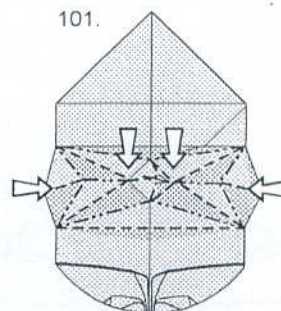
98.
... and from the bottom. Turn over again.



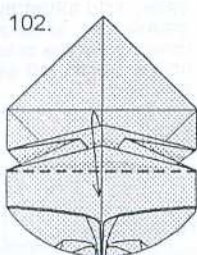
Valley fold on the left as shown, crease firmly, and unfold. Repeat on the right.



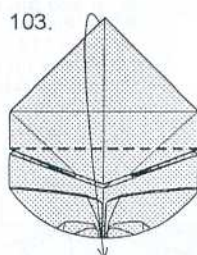
Now take hold of the circled portion once more and pull gently upwards again, ...



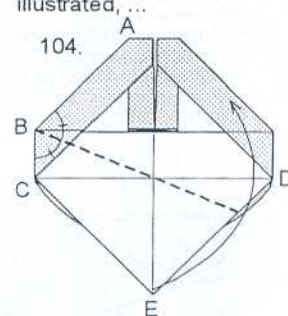
... and collapse the layers along the crease lines made in Step 99 as illustrated, ...



... like this, flattening completely.

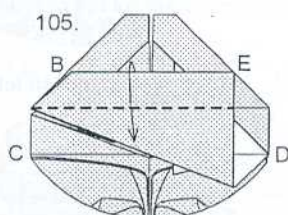


Fold one layer down, ...

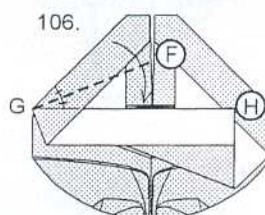


... then up again, bringing the vertical edge BC in line with the diagonal edge AB immediately above.

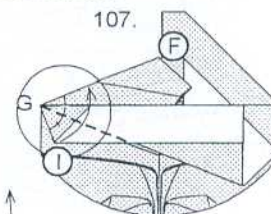
Note: the triangle CDE will be lying against the front of the dorsal fin and as in the above illustration.



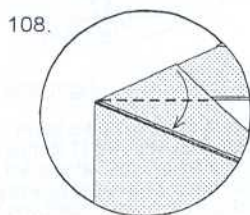
Fold edge BE to line CD.



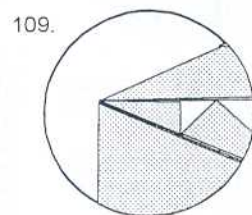
Now fold the diagonal edge GF to the horizontal edge GH.



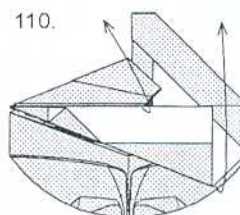
Valley fold edge GI to edge GF, ...



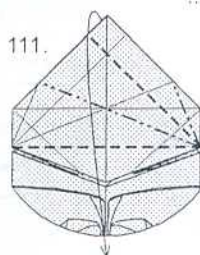
... then down once more, ...



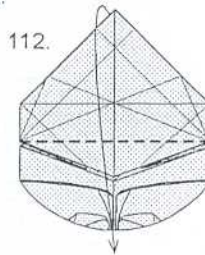
... like this.



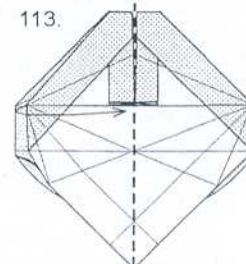
Unfold entirely to the position at the start of Step 103.



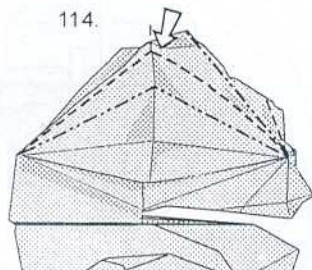
Repeat Steps 103 to 110 on the right side.



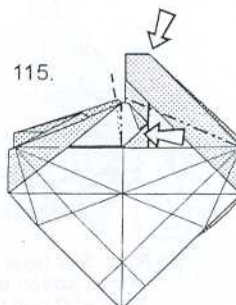
Fold down again.



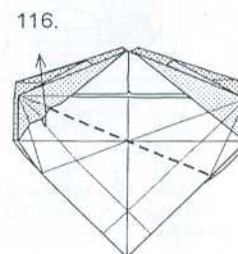
Swivel one flap to the right, ...



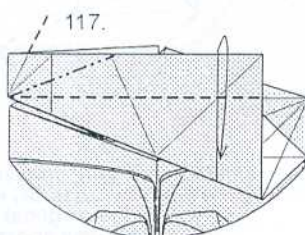
This is a view of the left side.
Sink fold along the crease lines made in Step 106. When complete, the paper should appear similar to the left half of figure 102.



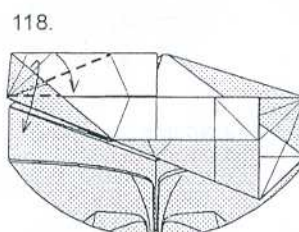
Reverse fold the tip to complete the left side, then repeat Step 114 on the right. This time, the tip of the right tab should be inserted between the layers of the left tab.



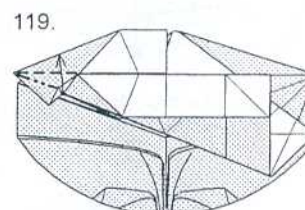
Valley fold along the existing crease line, separating and drawing out the coloured layer on the upper left as you proceed.



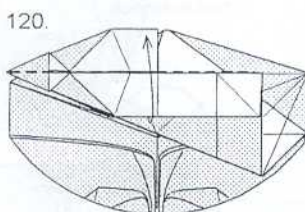
Fold along existing crease lines as illustrated, ...



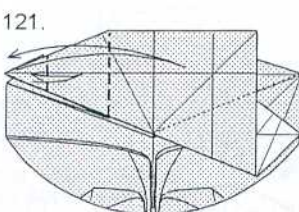
... like this,



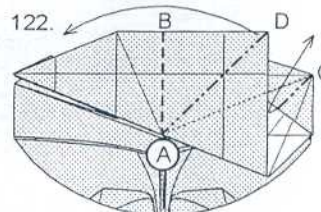
... with a squash fold here.



Fold this flap up.

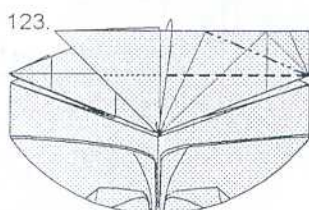


Make two valley folds on the left as shown, creasing firmly through all layers before unfolding.



And now for the right side.

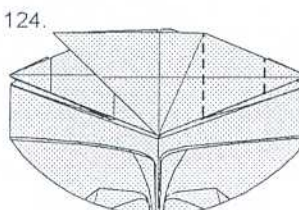
Lift up the coloured layer at C, then swivel point D to the left with a valley fold along AB. This will result in another valley fold along AC on the underlying layer, ...



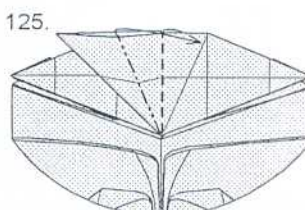
... like this.

Valley fold down, opening the triangular tab in the centre temporarily.

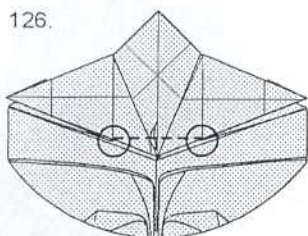
Repeat from Step 117 on the right, ...



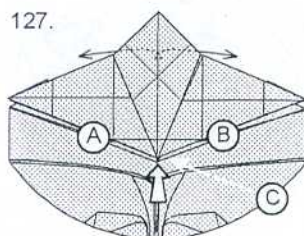
... then repeat Step 122.



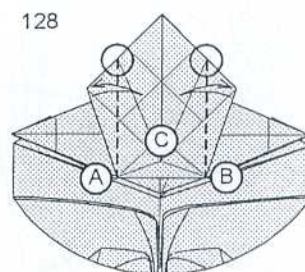
Squash fold.



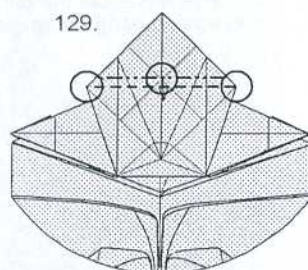
Valley fold between the circled landmarks, crease firmly, and unfold.



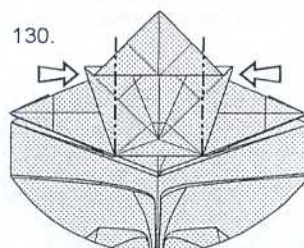
Now flatten out the triangle ABC while opening out the underlying layers at the top, ...



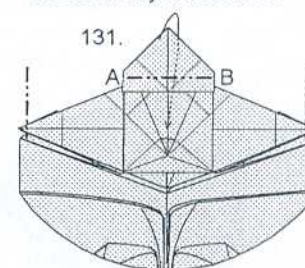
... like this. Fold between the circled landmarks and Points A and B respectively. Crease firmly and unfold.



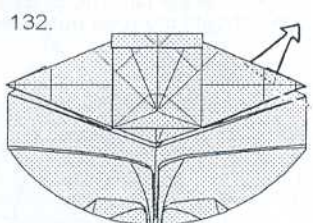
Crimp fold. Note the three circled landmarks for the valley and mountain folds.



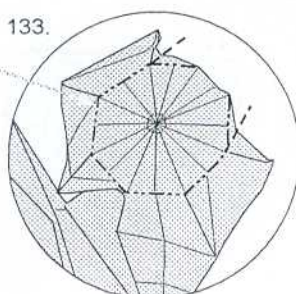
Reverse fold along the crease lines made in Step 128.



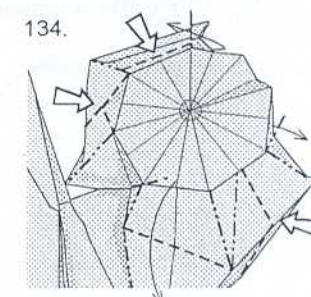
Mountain fold along line AB. Fold and unfold the tips on each side. Crease firmly



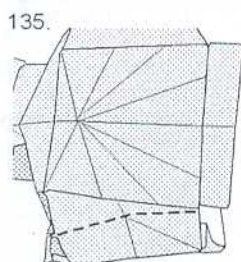
Open out entirely, ...



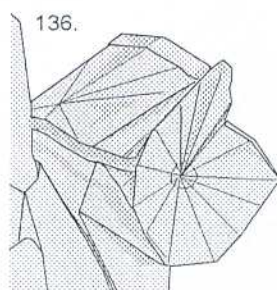
... and mountain fold along the existing octagonal crease lines.



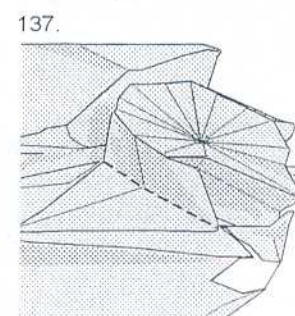
Now lift out the layers on each side of the upper right side side of the octagon and flatten the surrounding paper as shown.



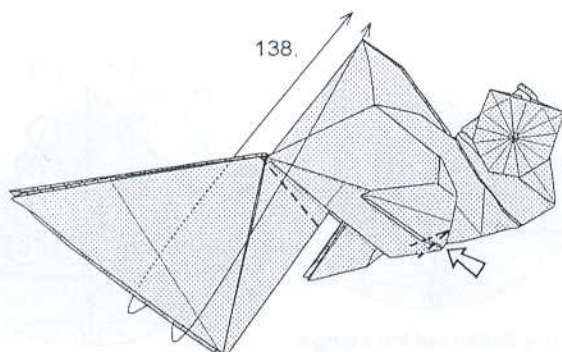
This is a view of the top of the head, ...



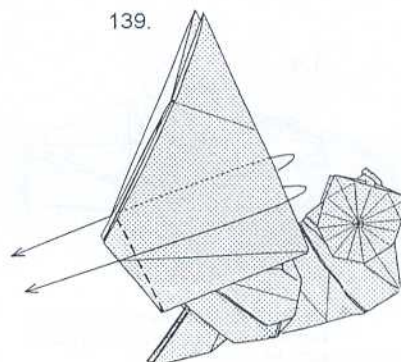
... a view from the left side, a little to the top, ...



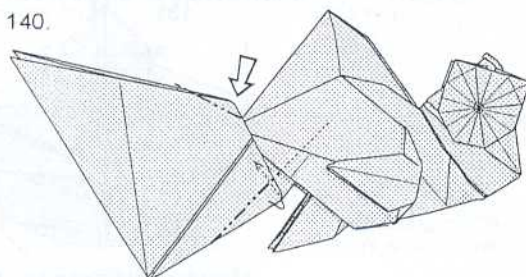
... and the bottom, a little to the front.



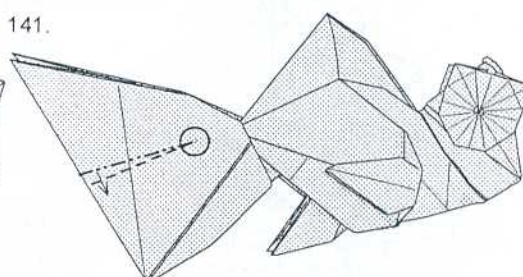
The Blackmoor should now look like this. Repeat from Step 132 on the other eye. Reverse fold the base of the pectoral fin, then outside reverse fold the tail at the illustrated angle.



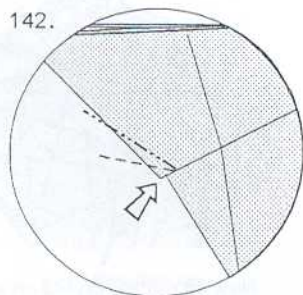
Outside reverse fold the tail once more, again noting the angle.



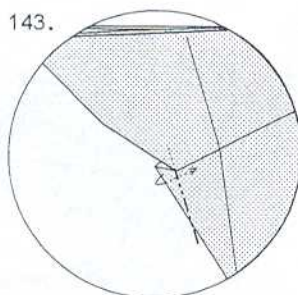
Mountain fold the base of the tail, and repeat on the side. Next, sink the little protrusion as shown.



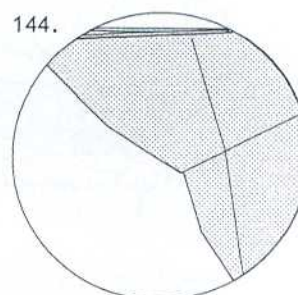
Crimp fold the tail. The circled area should protrude outwards.



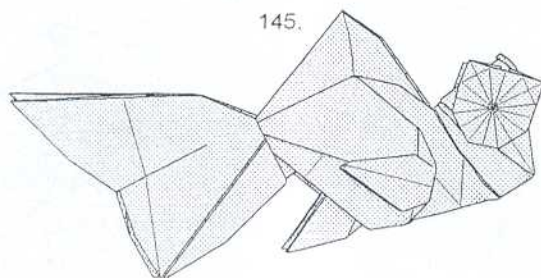
This is a close up of the crimp fold in Step 141. Reverse fold, ...



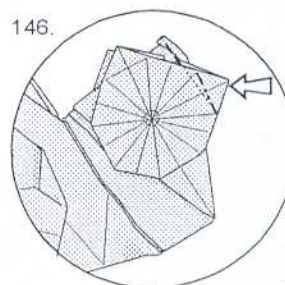
... then mountain fold, ...



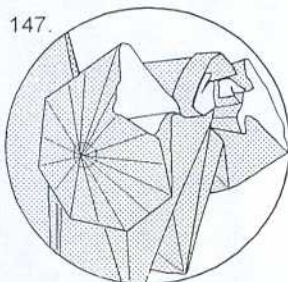
... to lock the crimp in place like this.



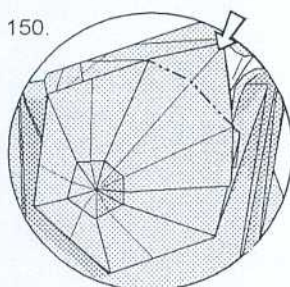
Now for the eyes and head.



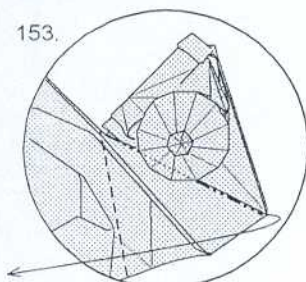
Reverse fold along the existing crease lines, ..



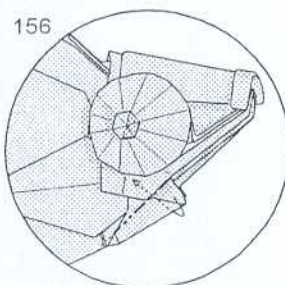
... like this.



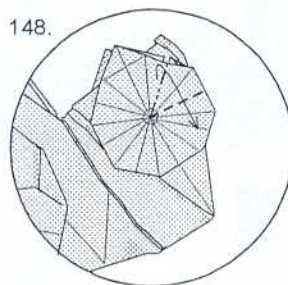
Now reverse fold along the existing crease lines on this side.



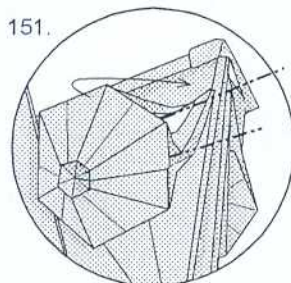
Crimp fold both sides as illustrated.



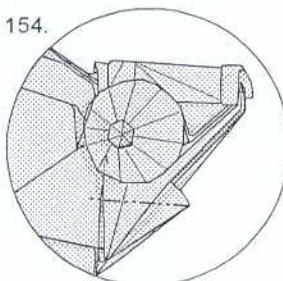
... then mountain fold the excess paper within the head. Repeat behind to complete the Blackmoor.



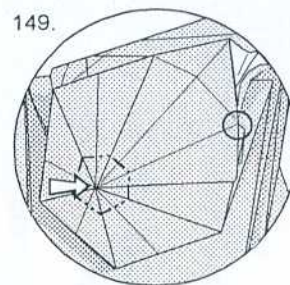
Lift along the mountain fold line and swivel 1/8 of the octagon to the right, with the centre protruding forward.



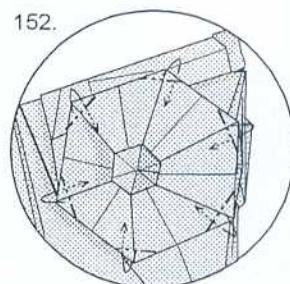
Press the edge of the eye as much as you can against the head. Some wet folding at this point would be useful.



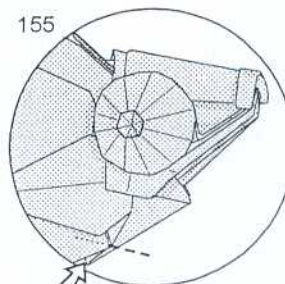
Mountain fold under. Repeat behind



Now sink the centre along the crease lines made in Step 131 while holding the layers together at the circled area. This is delicate - a pair of tweezers will help a great deal.



Now fold the corners behind to round off the eye. Repeat from Step 146 on the other side to complete the eyes.



Reverse fold the corner underneath, ...

